NEW REMEDIES.

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MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

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PUBLISHERS' NOTICES.

THE edition of NEW REMEDIES this month is 7,000 copies.

The subscription price of NEW REMEDIES is $1.50 per year, *including postage.*

Specimen copies will be sent free to any one who wishes them.

Advertisers are referred to Rowell's great Newspaper Directory for the circulation of the various drug journals. "NEW REMEDIES" is the only one which publicly states the number of copies it prints.

We believe NEW REMEDIES has a larger number of readers distributed all over the country, from Maine to California and from Alaska to Mexico, than any other drug journal published.

NEW REMEDIES WILL BE AN ILLUSTRATED PAPER NEXT YEAR—FINE WOOD ENGRAVINGS AND LITHOGRAPHS IN COLORS.

The publishers beg to direct attention to the MARKET REPORTS and PRICES CURRENT of NEW REMEDIES. The former is made up by the largest broker in Drugs and Chemicals in New York; and the latter is not, as usually the case, the markings of one jobbing-house, but is averaged and corrected from quotations supplied by six of the leading jobbers and importers of the articles enumerated. Dealers may therefore purchase from any large jobber in the country at these prices.

EDITORIAL.

As we approach the end of the fifth volume of NEW REMEDIES, the editors and publishers have reasons for being well pleased with the results of the change from a quarterly to a monthly issue. Subscribers have more than doubled in number—a source of undoubted satisfaction to its owners, and letters of commendation which have come unsolicited to its editors are an assurance that a year of painstaking labor is not unappreciated, and that the policy of their enterprise is a successful one.

It has been the desire of its managers to adapt the journal especially to the requirements of those who are interested in any way in the production, manufacture, sale, or consumption of medicines, and the multitude of articles included in the stock of the retail apothecary; and at the same time to furnish a *résumé* of the current literature and news belonging to the departments to which its scope is restricted. It has also been their aim to obtain for it a reputation for scientific character and reliability which should place it above the position occupied by journals devoted to trade interests alone. In furtherance of this plan they have carefully excluded matter, however great its general interest, which could hardly claim to belong to the department of Materia Medica, Pharmacy, or Therapeutics, and in making selections they have endeavored to give prominence to things of practical rather than of theoretical value.

A journal which in some way meets the wants of many thousands of readers must occasionally contain articles which are of little special interest to some of them, and it is a nice question to decide what subjects will be of most value, and how much space ought to be devoted to them. For this reason friendly criticism on the part of its readers is always acceptable, and however much we may be pleased, as most people are, to hear favorable comments, we are doubly grateful to those whose suggestions enable us to do better. Our subscribers may be sure that in the coming volume, as in the one closing, no efforts of the editors or expense on the part of the publishers will be spared to improve the journal or insure a permanent extension of its circulation. It is intended that NEW REMEDIES shall become a necessity, through the nature of its contents, to those who deal in or prescribe medicines, and by its extensive circulation to those who have wares which

they desire to bring to the notice either of apothecaries, or physicians who dispense their remedies.

Some of the new features which we hope to introduce in the next volume are a series of papers on the ready methods of detecting adulteration or falsification of the drugs, chemicals, and medicinal preparations in common use, an increase in the number of formulæ, and illustrations of new objects added to our materia medica, as well as new or improved pharmaceutical, chemical, medical, and surgical apparatus. In the latter respect the journal will differ from anything that has been published in this country.

We ask attention to the meeting of the College of Pharmacy of this city, a notice of which appears among our News Items. The United States Pharmacopœia had its origin in the New York County Medical Society, and we certainly ought not to lack a sufficient number of physicians who take an active interest in its approaching revision to honor the memory of its founders. There will probably be a larger attendance of pharmacists, but it should be understood that any one will be welcomed who has an interest in the subject to be discussed.

Those who thought it worth their while to read what we said in our June number regarding the desirability of having a botanical garden in this city, understand our pleasure at the establishment of one in Chicago, an account of which was in the October number. Although the success of such a venture in a city even so far away as Chicago will make it easier to accomplish it here, since we can have the benefit of their experience, and, by the time we are ready to do so, can make use of some of the materials they have collected, by way of exchange, still, few projects of this sort are ever brought to a practical issue, and much less often are they inaugurated without the personal effort of one or, at most, a few individuals. The American Museum of Natural History has already missed its opportunity to enlist the sympathies of a large number of the public in its work, by allowing private enterprise to furnish us with a splendid aquarium when they had grounds and buildings in Central Park at their disposal, free of rent. A well selected and arranged collection of shells, fossils, and minerals is certainly a necessary part of any museum of natural history that aims at completeness; but as an educator, it is not a tithe the value that a collection of living objects is. Even at the present day, the museum is best known through its living animals, and more is learned and enjoyed by the public from the pranks of its tuberculous monkeys and mangy bears than all its cases of stuffed apes and bewildering clam-shells.

We may be misinformed with regard to the scope of its charter, but can say that unless it contemplates the establishment of a garden of plants, as well as the exhibition of animal life and its manifestations, it comes far short of what a museum of natural history should be.

NEW YORK DRUG MARKET.

[*Prices given are for round lots from Importers' and Manufacturers' hands. For single packages an advance would be charged.*]

Matters have stood during the past month in about the condition in which we left them at our last report. But few large transactions have transpired, but these few have given dealers some encouragement, and roused the drooping spirits of some of the most despondent ones. The trade, however, needs a few bold leaders to stir them up thoroughly, and we have lately heard the wish expressed that there was some man in the trade with a little pluck to set things going as they really ought to be. Comparing the present year with some years before the panic of 1873, opportunities for profitable investment that are now entirely disregarded, through pure and unreasoning timidity, would then have been eagerly taken up, and from mere *force* and confidence would have been successfully and profitably carried out. This spirit we need now, and we sincerely hope that the election will settle business on a surer and more satisfactory basis.

Opium has steadily advanced from $6.00 gold, the ruling price when we last wrote, to $6.50 gold, at which it is firmly held. Late cables from Smyrna report large purchases there at 190 piastres, which is an advance of five piastres within the week. The crop reports are still 3,000 cases, and we see no reason why much higher prices should not be reached during the winter.

Morphia is very firmly held at $4.75 for P. & W., some large speculative transactions having taken place at and near that figure. An advance is confidently expected.

Quinia has ruled quiet but steady at $2.50 until recently, when P. & W. was advanced by the manufacturers to $2.60.

Quicksilver, after declining to 50c. gold, has recently been quite active under favorable advices from London and China, and just now the price is firmly held at 54 @ 55c. gold, some holders asking even higher than these figures.

Mercurials have been advanced in sympathy with Quicksilver, and are quoted as follows, viz.: Blue Pill, 45c.; Calomel, 75c.; Corrosive Sublimate, 65c.; Mercurial Ointment, 42 and 52c.; Red Precipitate, 85c.; White Precipitate, 95c.

Borax is steady and quiet at previous figures, being 11 @ 11¼c. for city refined, 9¾ @ 10¾c. for California.

Blue Vitriol is firm and in good demand at 7¾ @ 8c.

Alum is in good demand, but stocks are small, and quotations are very firm, at 2¾c. for lump, 2⅞ @ 3c. for powdered.

Salts about as last reported. Rochelle 2c., and Epsom 30½ @ 31½c.

Arsenic has been scarce and in brisk demand, the price having advanced since our last from 3½c. gold for powdered to 4c. gold. At this writing,

however, it is in better supply, and 3¾c. gold would probably be accepted for a round lot.

Sugar of Lead remains quiet but firm, at 19c. for white, and 12½ @ 13c. for brown.

Camphor has become scarce, and under higher prices from China the price has been advanced to 29c., at which it is firmly held.

Citric Acid has been in light demand, and price has fallen to 77 @ 78c. gold.

Tartaric Acid in moderate demand, at unchanged quotations. Crystals 42½c. gold, powdered 47½ @ 48c. currency.

Oxalic Acid has been in good demand, large sales being effected at 11 @ 11¼c. gold, holders now demanding 11¼ @ 11½c. gold.

Cream Tartar shows but little change, French being a shade higher at 32¼ @ 32½c. gold, American 30½ @ 31c. gold.

Chlorate of Potassium has sold largely at the advance noted in our last, but lately, under a slackened demand, has dropped off a trifle, and could now be bought at 24 @ 24½c. for any good brand.

Iodide of Potassium.—Manufacturers have lowered their price to $2.40, at which there is but little doing.

Bichromate of Potassium in good demand, at slightly higher figures, American selling at 15¼@ 15½c., Scotch 16c.

Prussiate of Potassium sells moderately at 26c. for American.

Carbonate of Ammonium is unchanged, English selling freely at 14½c. gold in 10 cask lots.

Muriate of Ammonium, 10½c. gold, at which price there are moderate sales.

Sulphate of Ammonium is dull, and American sells as wanted at 4½ @ 4¾c.

Iodine has declined slightly, resublimed being obtainable at $3.25.

Cuttle-Fish Bones are dull; the market, however, is quite firm at 35c.

Venice Turpentine slightly lower, owing to slow demand, and can be bought at 24c.

Balsam of Copaiba.—Large stocks and a dull trade have weakened the price considerably, so that 43@44c. would be accepted.

Balsam of Tolu is in moderate demand at $2.50.

Balsam of Fir is in light stock, and Canada is is held at $2.00.

Cubebs are dull; prime berries can be bought at 8½@9c.

Cassia Buds are very dull and somewhat lower, being easily obtained at 37½ @ 40c.

Squills quiet and slightly easier. Stocks are, however, not large, and 9 @ 9½c. could not be bettered.

Guarana is lower, lump selling at $2.00, and pure powdered $2.25.

Lycopodium has been sold freely, but previous quotations of 42½ @ 45c. are still good.

Arnica Flowers are quoted at 13½ @ 14c., at which price they are quiet.

Chamomile Flowers.—Roman are very scarce and abnormally high, being held at 70 @ 80c. German are quiet, and are held at 30 @ 45c. as to crop and quality.

Rhubarb is dull and hard to sell, nearly all grades having been sold at decidedly lower prices. Prime root can be had at $1.37½ @ $1.50, good 90c. @ $1.05, and poor quality 60 @ 75c.

Ginseng sells at $1.30 @ $1.40 as to quality, which is an advance since our last.

Ipecacuanha dull, and nominally held at 97½c. @ $1.00 gold.

Jamaica Ginger.—Bleached has been dull and lower until recently, when some large sales have been made, advancing the price to 18⅜ @ 18½c. Unbleached dull at 17½c.

Ergot is in good stock, and declining figures have been accepted. Recently there has been more demand, and sales have been made at 85 @ 90c., the lower price being about the market.

Gum Assafœtida has been attracting some attention from speculators, and some large lots have been sold at slightly higher figures, the market closing at 13 @ 15c.

Gum Shellac remains about as last reported, D. C. bringing 44c., and good English 34 @ 36c. Native 32 @ 33c.

Castor Oil has been the most active article on the list, and large sales have been made at greatly increased prices. The crop of Castor Beans is reported to be very small, about one-half of last year's turn-out. Baker's A. A. has sold at 13½ to 15½c., closing at the latter figure, and very firmly held. Prime brands of Western Oil are held at 15 @ 15½c. in cases.

Cochineal has become very quiet, and sales are slow at 65c. gold for prime Honduras silvers.

Canary Seed, under recent arrivals, has weakened in price, and late quotations can be easily bettered. Prime Spanish and Sicily $4.00, Dutch and Smyrna $3.75 @ $3.87½.

Mustard Seed continues in active request at previous prices, California and English yellow selling at 9¼ @ 9½c. Brown California 7½c.

Hemp Seed dull and slightly lower, prime Russian being quoted at $1.85 @ $1.90.

Jalap.—The small stock now here has been concentrated, and is firmly held at 30c.

Glycerine is scarce, both for crude and refined, and American refined is held at 19 @ 20c. Sarg's Vienna Glycerine quoted at 18c.

Tonqua Beans are dull and slightly lower, prime Angostura jobbing at 80c.

Essential Oils.—Sanderson's Oil Lemon $3.15 gold. Sanderson's Oil Bergamot $3.75 gold. Oil Peppermint in cans $2.50 @ $2.65. Oil Sassafras 48c. Oil Citronella 70c. Oil Cloves $2.75.

Poisoning by Coloring Matter added to Wines.—An ex-minister of the French Government has recently commenced a suit against his wine merchant, owing to his wife and himself having been poisoned by coloring matter which had been added to the wine sold him; and a letter written by a deputy to M. Dufaure complains that in the wine-growing countries poisonous coloring is openly sold by the chemists.

MATERIA MEDICA.

The American Leech Trade.

ONE of the oldest American leech dealers has been interviewed by the correspondent of a contemporary. His opinions are as follows:

"The American leech I believe to be utterly valueless. I have received fine-looking specimens from Mississippi and Pennsylvania, but I found them wholly worthless. They are far inferior to even some European varieties of the hirudo decora, which cannot easily be induced to bite unless blood be drawn to excite them. I consider six Swedish leeches equal to at least one hundred of any American variety. Those exported to America are generally full of blood, and at Rhode Island there are immense purging ponds in which the newly-arrived leeches are placed, and left to digest their last meal. Until it has been perfectly digested they are useless. These ponds belong to Mr. Witte, who does nearly all the importing for American leech doctors, and he charges an extra price for the ponded leech, because the leeches must remain at least a year in the purging pond. It takes a year for them to get rid of one good meal. The leech can live on almost nothing; its vitality is absolutely prodigious; it has been known to live in the human stomach, and to make its home in the human intestines. [?] They live to a prodigious age, from fifty to one hundred years. [??] But it is a curious thing that they are constitutionally delicate creatures. If deprived for a considerable time of clay or turf to burrow in, they are liable to disease. They are carried off by epidemics peculiar to leech life, some of which appear to be skin diseases. I have to nurse them pretty carefully, and when I find one leech sick I put him in the leech hospital. A milk diet frequently restores sick leeches to perfect health."—*Med. and Surg. Reporter.*

The Source of Magnesium Sulphate.

THE *Med. and Surg. Reporter* says that for many years sulphate of magnesia was made in the United States by one firm of manufacturers only, who were in Philadelphia, and whose supply of crude material was obtained from a mine in Maryland, from a mineral containing about twenty per cent. of magnesia. Within a few years one or two other houses have commenced the manufacture of Epsom salt, and a mineral frequently called *keiserite*, containing about sixty per cent. of magnesia, obtained from Germany, has been principally used.

A New Dye Stuff.

CH. LAUTH has succeeded in producing another new class of dyes by the introduction of sulphur into aromatic diamines, and then oxidizing the new sulphur compound. On heating phenylendiamine (made from nitro-acetic anilide) with sulphur, to 150 deg. or 180 deg C. (302 deg. or 356 deg. Fah.) sulphuretted hydrogen gas is evolved, and a new base containing sulphur is formed. This base is converted by oxidizing agents into a beautiful violet dye.

The same substance can be obtained in a more simple manner by dissolving the muriate of phenyldiamine in a large quantity of sulphuretted hydrogen water, and slowly adding sesquichloride of iron. The precipitate formed is washed with a weak solution and recrystallized from hot water. In the dry state this dye consists of very fine curved and intricate needles of dark green lustre. It is soluble in pure water, but foreign substances change its solubility; with caustic soda it yields a brown precipitate, probably the free base. Reducing agents destroy the color of the violet substance; oxidizing agents destroy it quite quickly. Like the ordinary aniline dyes, it may be modified by substitution; with aniline it produces a blue dye insoluble in water; with aldehyde or iodide of methyl it gives a green, which attaches itself directly to the fibres. Cresylen-diamide from nitrated ortho-acetoluidin gives, under similar conditions, more of a reddish violet; cresylen-diamine, corresponding to paratoluidin, gives a violet-red. These new dyes contain sulphur.

A Mine of "Soap."

THE rock-soap mine is situated in the lower mountains or foot-hills of the coast range in Ventura Co., Cal., five miles from the city of the same name. It was discovered by A. F. Hubbard while prospecting for coal. He accidentally dislodged some that fell into water and dissolved. It being a new experience to see rock dissolve, he gave it his attention, found it soapy, took it home to experiment with, and soon learned its virtues; yet, strange to tell, his family used it for nearly a year before it was given to the public, when Mr. Hubbard associated himself with Messrs. Cronk and Bickford, forming the present company, who are the sole proprietors of this wonderful mine. It is accessible only through a cañon leading to and opening upon the beach. The coast-line stage road passes the mouth of this cañon three miles below the mine. This cañon or ravine penetrates one of the wildest possible volcanic regions. Along this side of the ravine, sometimes in the bed of the stream, sometimes high up its precipitous banks, winds a little trail leading to the soap mine, travelled only by the safe pack-mule and hardy miner. The rock resembles chalk or lime. At the southern extremity is an extensive deposit, veined, marbled, and parti-colored, resembling Castile soap. The ledge at its opening is fifteen to twenty feet wide and crops out for 2,000 feet to an unknown depth. The lode is well defined with wall rocks of hard slate-stone, and has, in common with the slate and sandstone strata about it, been thrown up from the depths and turned completely on edge. In its vicinity is a mountain of gypsum, also turned up on edge; indeed, the whole country bears evidence of fearful convulsions, also of some time having lain

peacefully at the bottom of the ocean, for on the highest mountain tops can be found nearly perfect sea-shells and specimens of marine matter.

Peptone-forming Ferments in Plants.

E. v. Gorup and H. Will have examined the secretion of the pitcher-plants, *Nepenthes phyllamphora* Willd., and *N. graciilis*, Korth. The secretion of irritated glands, that is, of such pitchers or fly-traps, which contained insects, was collected separately from that of unirritated glands. The former liquid, which has an acid reaction, was found to dissolve fibrin, albumen, flesh, and legumin with ease, and to convert them into peptones;* gelatine was likewise dissolved and converted into a non-gelatinizable substance; starch, however, was not altered by it. On the other hand, the secretion of non-irritated glands had a neutral reaction and did not possess any digestive powers, but it acquired them in a high degree by the addition of formic, acetic, propionic, citric or malic acids. The acid exudation of the pitcher-leaves of these plants may therefore be considered as a solution of true vegetable pepsin. Just as pepsin alone, without the presence of an acid, is devoid of digestive powers, so is this vegetable exudation while in a neutral condition. And when acidified, the latter is incapable of forming diastase, and has the above-mentioned peculiar effect upon gelatine, agreeing in these respects likewise with common pepsin solutions.—*Ber. d. Deutsch. Chem. Ges.*, 9, 673.

Maté, or Paraguay Tea.

Some interesting paragraphs respecting this substance are quoted in the *Revista Farmaceutica*, the organ of the Argentine Pharmaceutical Society, from an unpublished work by Dr. Bialet, entitled "Compendio de Anatomia, Fisiologia é Higiene humana." Of these the following is an abstract.

The maté or Paraguay tea tree (*Ilex Paraguayensis*, Lamb.), is a small tree belonging to the family of the Celastrineæ, which reaches at the most a height of seven metres; ordinarily it does not exceed four or five. Its trunk is about twenty centimetres in circumference, and is covered by a whitish bark. The leaves are oblong, cuneiform, obtuse, and finely dentate. It has axillary multipartite peduncles; calyx tetrasepalous; the corolla with four petals in the form of a crown; stile none; stigma 4-fid; fruit a four-seeded berry. The plant grows very abundantly in Paraguay, North Corrientes, Chaco, and South Brazil, where it forms woods called "yerbales."

According to Dr. Mantegazza, maté is prepared in Paraguay in the following way: The entire trees are cut down, and the small branches and shoots are taken with the leaves and placed in the *tatacúa*, a plot of earth about six feet square, surrounded by a fire, where the plant undergoes its first roasting. From thence it is taken to the *barbacúa*, which is a grating supported by a strong arch, underneath which burns a large fire; here it is submitted to a particular torrefaction, determined by experience, which develops the aromatic principle. Then it is reduced to a coarse powder in mortars formed of pits dug in the earth and well rammed. It is next put into fresh bullock skins, well pressed, and placed in the sun to dry. The packages (*tercois*) thus obtained, which weigh 90 to 100 kilogrammes, are very compact, and have an average value in commerce of one to two dollars the kilo, according to quality; those of Paraguay and Missiones being the better, or least hurtful, those of Oran and Paranaguá being much more prejudicial to health.

Of all the analyses of maté which have appeared in books, Dr. Bialet considers not one, up to the present time, deserving of much credit. Señor Arata, however, who has devoted much time and skill to the subject, has placed the following data at his service:

Maté contains in 100 parts:

Organic combustible substances	91.685
Ash	8.315

The ash contains:

Calcium oxide	12.344
Magnesium oxide	11.395
Sodium oxide	7.281
Potassium oxide	2.984
Manganese oxide	2.500
Ferric oxide	3.410
Sulphuric acid	0.926
Hydrochloric acid	0.716
Phosphoric acid	5.540
Carbonic acid	8.150
Sand, silica, carbon, and loss	44.754

It will be understood that the enormous relative quantities of sand found in the analysis is a result of the mode of preparation, in excavations made in the soil.

The plant contains:

Principles soluble in ether	9.820
" " " alcohol	8.432
" " " water	26.208
" " " " acidulated with HCl	7.260
Principles soluble in solution of HNaO	16.880
Cellulose	13.280
Water	9.000
Sand	9.120
	100.000

Among the soluble principles is an average of 1.3 of caffeine. The quantity, however, was found to be very variable in different plants analyzed; the Paraguay and Missiones plants contained the most, and the Paranaguá and Argentine the least. Señor Arata has made a careful search for caffeic acid and the caffeates which some say they have found in maté, but hitherto always with negative results; the same remark applies to the examination for a volatile acid.

The tannin of maté is peculiar; it does not tan

* Compare the article on *peptone* in the August number of this journal, p. 236.

hides, and requires a special method for its estimation; the average amount obtained by the ordinary method is not more than 12 per cent.; but the whole quantity present amounts to about 16 per cent. Maté contains also a large quantity of a peculiar fatty matter, not entirely saponifiable by potassa, besides pectic matters.

Comparing maté with the other caffeic substances, it ranks between coffee and tea for the proportion of caffeine it contains, and has the largest proportion of mineral salts. The action of maté, like that of all other caffeic substances, is upon the nervous system; but though it contains a large quantity of caffeine, it does not exalt the peripheric nerves like tea, nor the cerebric like coffee, but rather contributes in a high degree to the indolence and drowsiness of the ordinary drinkers of maté, whose mental faculties become at length disarranged and impoverished to a lamentable degree. It accelerates the cardiac contractions, producing many more affections of the heart than tea or coffee. Upon the digestive organs it acts variously; no other beverage disturbs them so much, though there are persons who can tolerate its use. It accelerates the peristaltic movements and produces an irritation of the organs generally. These effects are produced in whatever way the maté may be taken, but the most injurious effects are produced upon the mucous membrane when the maté is taken hot and is sucked through a "*bombilla*," as it then passes into the stomach uncooled by previous contract with the mouth.

When the use of maté is prolonged it becomes an imperious necessity, such a gloominess following abstention from it that habitual drinkers would rather go without food than without maté. The moderate use of two or three doses a day during the summer heats or great fatigue is convenient, but it should be taken from a cup. It adds to the disadvantage of the "bombilla" that by indiscriminate use of the same bombilla by different persons it may become the vehicle of contagion for the most repulsive complaints.*—*Pharm. Journ. and Trans.*, July 1, 1876.

California Olives.

California, which is already famous for its luscious grapes, juicy pears and giant apples, appears to be destined to become the American home of the olive. The finest olives grown anywhere are said to be those produced at the San Diego Mission, and altogether the fruit is pronounced far superior, when carefully picked, to that raised in France or Spain.

The olive tree is not particular as to its soil, and is easily cultivated. It is propagated by cuttings from other trees. It grows slowly at first, begins to bear at four years of age under favorable circumstances, but does not yield a full crop until the tenth or twelfth year. There is scarcely a limit to the length of time which the tree will bear, as we have heard of a tree over seventy years old yielding 100 gallons of fruit.

In California the average crop expected, after the trees have arrived at the age of maturity, is at the rate of twenty-five gallons of olives per tree.

Experience has taught that sixty trees are the most that an acre of ground can give sustenance to. The tree is a very handsome one, with curious grayish green foliage, and there are few more attractive sights than a regularly planted grove of these well-grown and beautiful trees. The only enemy of the tree which has appeared so far in California is the gopher, which appears to *go for* the roots of the young sapling.

It is said by the proprietors of olive orchards that it is more profitable to make the fruit into oil than to pickle it. From five to seven gallons of ripe olives go to make one gallon of oil.

The machinery for pressing the oil is very simple, and usually stands in the orchard, protected from the elements only by a slight shed. The pulp is crushed from the pits of the olives and stuffed into strong rope nets, which are then pressed, the oil running down into a tub of clear water, upon the surface of which it collects.

The refuse and crushed seeds on pressure yield a quantity of oil of a lower quality, which is boiled in order to clarify it. The first does not even need bleaching.

California olives are only of moderate size, but very plump, juicy, and full-flavored. Trees bear very unevenly; we have heard of one tree in Santa Barbara that bore forty-eight dollars' worth of olives for three years in succession, and another which, at the age of twelve years, bore over two barrels of fruit.—*Am. Grocer.*

PHARMACY.

The Absolute Weight of Atoms.

While chemical research has succeeded in ascertaining the relative weight of the atoms of the different elements—upon which fact, indeed, is based the whole modern science of chemistry—the determination of their absolute weights, although frequently forming the subject of the speculations of chemical philosophers, has up to the present time baffled all their efforts. But where it is found impossible to arrive at an *exact* solution of a problem involving exceedingly small values, it is still possible to devise methods which permit us to conclude that these values must be *below* certain limits, which are still accessible to our perception.* It being practically impossible

* Maté is becoming fashionable in Europe. In Viennese coffee-houses it may be obtained on demand, and there are said to be quite a number of maté-bibblers there already. Maté cups, bombillas, and other paraphernalia for its preparation and consumption, were exhibited at Philadelphia in great variety by the Argentine Republic and other South American states.

* The determination of the parallax of the fixed stars, and, by means of it, of their distance from the earth, forms another instance of this kind.

to continue the division of matter by mechanical means, there only remains the attenuation of solutions of bodies to the limit of our power of identifying the same.

With this end in view, J. Annaheim has devised the following ingenious method to show the extreme divisibility of matter, expressed in weight and volume.

Fuchsin and cyanin are well known to be most persistent colors, their solutions retaining traces of the original tint even in extreme dilution. In order to ascertain the limit of recognition, 0.0007 gm. of fuchsin ($C_{20}H_{19}N_3HCl$), being a fragment of about 0.5 mm. ($\frac{1}{50}$ inch) in diameter, was dissolved in alcohol, and the solution diluted to 1000 cubic centimetres. Each cub. cm. therefore contained 0.0000007 gm. of the coloring agent. On filling this liquid into a burette of about 1 cm. diameter, and holding it against a white background, the tint of the solution may be recognized even at a considerable distance. If now one single drop of this solution (of which 35 are contained in each cubic centimetre) be allowed to fall into a small dry test-tube of about 0.8 cm. diameter, the rose tint of the drop may still be distinctly recognized by holding the tube obliquely over white paper, and observing it by looking parallel to the latter, a second tube containing a drop of pure alcohol being held alongside of it for comparison. Hence it follows that the eye can still perceive 0.00000002 gm. of fuchsin. *Supposing now* that this drop contain *only one* molecule of the coloring matter—and less than this quantity could not be present—we find, from the atomic weight of the substance, that the absolute weight of an atom of hydrogen amounts to only 0.000000000059 gm.*

The same trial was made with cyanin ($C_{35}H_{35}N_2I=526$), of which 0.001 gm. was dissolved in one litre of alcohol, and one drop of which solution still permitted the recognition of the coloring matter, amounting to only 0.0000000285 gm. This gives as the absolute weight of an atom of hydrogen, 0.000000000054 gm., a figure which shows a surprising agreement with that obtained from fuchsine.

From these experiments we may conclude, with mathematical certainty, that the absolute weight of an atom of hydrogen *cannot be greater than*

0.00000000005 gm.

In view of this extremely small value, we may at once forever abandon the hope of being able to see an atom, much more to weigh it.—*Ber. d. Deutsch. Chem. Ges.*, 1876, 1151.

Boracic Acid in Iron Ores.

In a paper read before the Institute of Mining Engineers, Phila., Prof. T. Egleston said: "During the last winter we have been actively engaged in the School of Mines in search for boracic acid. This has been owing to the fact that Mr. M. W. Iles, assistant in the qualitative laboratory, has discovered a test for that substance which makes its discovery exceedingly simple, instead of being, as previously, very difficult. It consists in powdering the mineral, calcining it, then moistening it with sulphuric acid, and heating on a platinum wire until the sulphuric acid is expelled. It is then moistened with glycerine and made to take fire. If boracic acid is present it infallibly gives a green flame. It is not at all surprising under such circumstances, the test being so easy, that boracic acid has been found by the students in a great many cases where its presence was not previously suspected, and in some where its detection was previously too difficult to warrant looking for it. We were not prepared, however, for its discovery in Lake Superior iron ores, and were disposed, at first, to think that a mistake had been made. After, however, it had been frequently reported in these ores, it was considered worth while to look for it, and having found it, to ascertain in what condition it was.

"It was then, to my very great surprise, discovered that certain Lake Superior ores are so completely filled with a borate that it is not possible to find the smallest piece which does not contain white specks of what proved to be a borate of lime and magnesia, which is probably a new mineral, as no borate corresponding to it is described. Sufficient quantities of it have been detached from the ore, entirely free from iron, and Mr. Iles will probably make the analysis, and publish the results before the next meeting of the Institute.

"I consider this result most surprising, considering the fact that so many thousand specimens of Lake Superior ores have passed through the hands of chemists. I think it is more than likely, as the boracic acid is present in such quantities in the ore, that we shall find some boron in the iron. If this is so, its presence will satisfactorily explain some of the peculiarities of the Lake Superior iron. I do not think it very likely that the iron will contain very much boron, for the probability is, since the borate of lime and magnesia is exceedingly fusible, that the larger part of it will go into the slag; but it is more than likely that some of it will be found with the silicon. Exactly what its effect is, cannot be stated before an investigation is made; but it is probable that we shall hereafter be obliged to look for boron in iron, a substance which has heretofore been unsuspected, and it certainly will be an exceedingly interesting matter to ascertain by direct experiment what its effects upon the iron are, since so little is known about it, that most authors do not mention it as one of the possible impurities of iron."

On the Preservation of the Natural Colors of Dried Plants.

Although it is well known that by treating specimens of plants with alcohol or hot water, their natural color may be preserved better and longer than without such treatment, still, after a certain length of time, the colors begin to fade and to darken. This is especially the case with succu-

* Molecular weight of fuchsin=337.5.

lent plants, as orchids, pinguicula, etc., which assume, during the tedious drying process, a blackish color, in consequence of the partial decomposition or fermentation of the sap. Mr. M. Stoelzl has found that the addition of a small quantity of salicylic acid to alcohol produces a liquid possessing superior preservative powers to any other. One part of salicylic acid is dissolved in 600 parts of alcohol, and the solution heated to boiling in an evaporating-dish; the whole plant is slowly drawn through it—a prolonged immersion discolors violet flowers—then swung about to remove the excess of liquid, dried between blotting-paper, and pressed in the usual manner. A frequent renewal of the blotting material, particularly at first, is indispensable. Plants treated in this manner dry rapidly, and furnish specimens of superior beauty, retaining their natural colors in greater perfection than by any other process.—From *Arch d. Pharm.*, Sept., 1876, 254.

Easy Method of Preparing Nicotina.

W. KIRCHMANN proposes the following simple method of preparing pure nicotina: A tin vessel, provided with two tubulures, is filled with tobacco, which is previously dampened with sodium carbonate. One of the tubulures admits a glass tube reaching nearly to the bottom of the vessel; the other is provided with a glass tube merely penetrating the cork. The vessel is made air-tight, placed into a boiling-hot steam-bath, and a rapid stream of carbonic acid gas passed through it, entering the vessel by the longer and leaving it by the shorter tube; the latter dips into a mixture of alcohol and dilute sulphuric acid. In this manner a large yield of perfectly colorless nicotina sulphate is obtained. In order to obtain the pure alkaloid, caustic baryta is added to the solution, the latter evaporated to dryness, and the pure nicotina extracted with ether.

A portion of highly concentrated solution of acid nicotina sulphate (bisulphate), saturated with alumina hydrate, deposited in a short time handsome octaëdric crystals, which Mr. Kirchmann considers to be nothing else but nicotina-alum, although he adds that he is not aware of a previously known case where a tertiary diamine base could take the place of ammonia in alum.

The same process could probably be employed for the preparation of conia (from *Conium maculatum*, L.; hemlock) and sparteïna (from *Spartium Scoparium*, L. = *Cytisus Scoparius*, Link., *Sarothamnus Scoparius*, Wimmer; broom).—*Arch. d. Pharm.*, Sept., 1876, 209.

Copper in Essential Oils.

IN a communication to the *Arch. d. Pharm.*,* Mr. E. Dannenberg makes the remarkable statement that the yellowish-white resinous sediment, forming in oil of bergamot and oil of citron, very frequently contains lead. He adds that his attention had been drawn to it years ago, by his former teacher, who died in 1846. The fact does not appear to have been previously published, although the frequent presence of copper in oil of cajeput is well known. This sediment may be removed from the stock-bottle by alcohol, which dissolves a resin mixed with the deposit, and thereby becomes colored brown. By washing with water, the sediment becomes white and pulverulent, but remains sticky, which latter property cannot be removed, even by boiling with alcohol or with ether. It is soluble with yellow color in moderately dilute nitric acid, with the exception of some resinous flakes. Boiling with sodium carbonate produces a brown solution with white residue, which is apt to cake together, preventing further action of the solvent. Suspended in water and decomposed by sulphuretted hydrogen, there is produced sulphide of lead, and an acid liquid which, after neutralization with ammonia, does not produce a precipitate with silver nitrate, but reduces the latter to metallic silver on boiling; with lead acetate it gives a copious white precipitate, becoming flaky on heating; with barium chloride it produces a faint white precipitate, soluble in nitric acid. Mr. Dannenberg states that he is at present collecting a larger quantity of this sediment, in order to be able to determine the nature of this acid.*

* Sept., 1876, 258.

The Dis-solution of Alkaloids.

IN a late number of the *Sanitary Record*, Mr. J. A. Wanklyn reports that he has continued his experiments on filtration through "silicated carbon," with results far beyond his most sanguine expectations. What he records is certainly remarkable. A solution of sulphate of quinine, of such a strength that one gallon contained 8.26 grains of soluble sulphate of quinine ($C_{20}H_{24}N_2O_2 H_2SO_4 6H_2O$) in the gallon was completely deprived of quinine by one single filtration through six inches of filter. The liquid before filtration yielded 3.55 milligrammes of albuminoid ammonia per litre, and after filtration, 0.02 milligrammes of albuminoid ammonia per litre. A solution of the above strength is sensibly bitter to the taste, and after filtration is no longer bitter. Chemists will thus perceive, he says, that the silicated carbon filter is endowed with extraordinary powers. That carbon has some power in absorbing alkaloids has been known for years; but that it absorbs alkaloids absolutely and almost instantaneously, is new.—*Chem. & Drug.*

New Method of Determining Silver, Chlorine, Bromine, Iodine, etc., volumetrically.

THE soluble sulphocyanides produce in acid silver solutions a white, curdy precipitate of silver sulphocyanide, which in appearance exactly resembles the chloride, with which it shares the prop-

* We have not had either the time or the opportunity, as yet, to make a search for copper in the sediments from these oils, and would suggest to some of our friends to take this matter up for investigation.—ED. N. R.

erty of being insoluble in water and dilute acids, so that the liquid filtered from the precipitate is not at all affected by chlorine or its compounds. The same precipitate in silver solutions is produced by the blood-red solution of ferric sulphocyanide, the color of which disappears instantly. On adding, therefore, a solution of potassium or ammonium sulphocyanide, in drops, to an acid silver solution, to which a small quantity of ferric sulphate has been added, each drop produces momentarily a blood-red cloud, which, however, instantly disappears on stirring, and the liquid becomes milky. Only when all the silver has been precipitated, does the red color of the ferric compound remain unaffected. The extremely intense color of the latter permits the recognition of the least trace of its presence in excess. If the quantity of ferric sulphocyanide solution necessary to precipitate a given quantity of silver is known, the standard solution may be used for the volumetric determination of silver, and the extreme sensibility of the indicator permits the utmost exactness of results.

But the method is capable of much broader application. All substances which are precipitated by silver from acid solutions, as chlorine, iodine, bromine, etc., may be rapidly and exactly determined by precipitating them with a silver solution *of known value in excess*, and titrating the excess of added silver with the standard ferric sulphocyanide solution.—J. VOLHARD in *J. f. prakt. Chem.*

Dialysed Salicylic Acid.

SINCE the manufacture of salicylic acid has assumed constantly increasing proportions, its quality has likewise been much improved, so that the product which is at present in the market under the designation "chemically pure" leaves scarcely anything to be desired. Nevertheless, there are still generally present some traces of a tarry-resinous matter, which accompany the acid with great persistence, and the removal of which is highly desirable. This has been accomplished by the "Chemische Fabrik auf Actien" (Chemical Works on Shares) of Berlin (late E. Schering). Mere recrystallization of the acid was found to be inefficient, as the substance still adhered to it; but the object was finally reached by employing a dialysing apparatus, which retains every trace of this tarry body. This *dialysed salicylic acid* is therefore to be regarded as *absolutely chemically pure*, and as particularly appropriate for medical or chemical uses, as well as for the preservation of articles of consumption. Although the price of this preparation is somewhat higher than that of the ordinary pure acid, it is hoped that a larger production in a short time will enable the manufacturers to lower it.

[NOTE.—The Editors have received a specimen of this acid, which certainly cannot be surpassed for beauty and whiteness. It has not the least trace of acridity when placed on the tongue, and will no doubt be universally used by careful dispensers].

Acetone in Diabetic Urine.

F. RUPSTEIN some years ago* found acetone and alcohol in the urine of a diabetic female patient. But from his investigations he concluded that they did not pre-exist in the urine, but were present as acetyl-diacetic acid, which was split up by the distillation of the urine into acetone and alcohol. In opposition to this theory, W. Markownikoff quotes the results of some analyses of diabetic urine, which appear to him to prove the presence of acetone in the urine itself. His method of separation is as follows: The urine passed during 24 hours is acidulated with tartaric acid, and distilled until $\frac{1}{2}$ or $\frac{2}{3}$ of the original volume remains. The product is twice redistilled, without addition, then three times more with addition of sodium sulphate, and the distillate finally treated with recently ignited potassa. In this manner an acetone is obtained which is accompanied only by very little alcohol, which appears to bear a regular proportion to the former body. 73 litres of diabetic urine from a boy of sixteen yielded 33 gm. of dry acetone, containing about 3 gm. of alcohol. 82 litres of diabetic urine from a young girl yielded 5 gm. of acetone, with only a trace of alcohol. Markownikoff suspects that both acetone and alcohol (ethylic) are regular constituents of diabetic urine.—*Lieb. Annal. d. Chem.*, 182, 362.

Examination of Spurious Beeswax.

NOT long ago some yellow beeswax was offered for sale in a German city, which, on account of its cheapness, found a ready market at first, but was afterwards ascertained to be a gross fraud. As the method of examination adopted presents a few novel features, we reproduce it here.

In appearance, color, fracture, brittleness, pliability, and odor (on the outside portions) this pseudo-wax could scarcely be distinguished from the genuine. But the freshly-cut surfaces had a lustre different from that of true wax, and on breaking the mass into pieces, a distinct odor of resin was perceptible. On melting it with a gentle heat, the honey odor disappeared entirely, but the pitchy odor became gradually more intense and oppressive. These simple means having already pointed out the probable composition, the melting point and the specific gravity were determined in the following manner: A wide-necked glass flask was filled three-fourths with water, and into the middle of this was immersed a thermometer and a test-tube containing some fragments of the wax; the mouth having been loosely stoppered, heat was carefully applied, until about one-third of the wax had melted. The temperature at this point was 70° C. (158° F.). To determine the specific gravity, two equally large pieces were dropped into a beaker containing dilute alcohol, in which they sank; distilled water was now gradually added, until, after stirring, the pieces floated a little below the level of the liquid. The specific

* Centralbl. f. d. med. Wissensch., 1874, No. 55.

gravity of the latter, being found to be 0.962, corresponds to that of the wax.

One gramme of the substance was warmed in a small flask with 10 gm. of chloroform. The solution was clear and yellow, but on cooling became opaque, and deposited on the sides an almost transparent and colorless mass. Another gramme was dissolved by heat in 15 gm. of 70 per cent. alcohol, and set aside to cool. This caused the deposition of globular colorless masses, leaving the liquid of a clear yellow color. The globules having been separated by filtration, they were dried and weighed. They amounted to 0.6 gm., and had a specific gravity of 0.910. The filtrate, on evaporation, left behind a brittle, yellow resin, weighing nearly 0.4 gm. One gramme of shavings was next boiled in a solution of 1.4 gm. of borax in 20 gm. of distilled water, whereby a colorless mass was obtained, floating on top of the liquid, which latter was cloudy, but did not become either milky or gelatinous on cooling. Japan wax was therefore not present.

Another portion, in fine shavings, was shaken with dilute ammonia, but the liquid remained clear and transparent and the substance unaltered, which proved the absence of stearine as well as turmeric and orleans. The above-mentioned globular masses, free from resin, were now examined for paraffin. They had a lustrous, alabaster-like appearance, became soft on kneading without getting adhesive, and dissolved easily and completely in oil of turpentine and benzine, but were entirely insoluble in five parts of hot absolute alcohol. They were hence pure paraffin. The composition of the substance was therefore 60 parts of paraffin and 40 parts of yellow resin, covered with a thin coating of genuine beeswax. The specific gravity in this case was identical with that of many samples of genuine wax.—*Pharm. Centralh. fr. Ph. Post.*

On Mustard-Paper.

Good mustard-paper can only be prepared from good mustard-flour which has been *entirely* deprived of oil. The least trace thereof remaining in the powder prevents its adhesion to paper, or causes it to stick to the skin; and besides, through the gradually developed rancidity of the oil, the paper becomes after a while altogether inert. To ascertain the absence of fixed oil, a sample of the paper or the powder is macerated for a few hours with petroleum benzine, and the solution filtered into a test-tube. If the liquid appears colorless, no oil was present; but if a yellow tint is noticed, this is due to oil. The fixed oil of mustard colors any of its solvents intensely yellow, which circumstance is taken advantage of during the removal of the oil, to recognize the progress and completion of the exhaustion. Presence of oil in the paper therefore communicates to it a yellowish appearance, while it should otherwise appear of a *whitish gray* color. In applying mustard-paper, the effect should be felt in 40, or at most 60 seconds.—*Ap. Zeit*

Sodium Sulphosalicylate.

Owing to a number of complaints which have lately been made about the impurity of sodium salicylate in the English market, Mr. John Williams made some experiments to obtain a compound of salicylic acid, which would be of a more uniform composition and easier to purify. It appeared to him that sulphosalicylic acid offered these advantages. It was discovered many years back by Cahours, and has been further investigated by Mendius. The process described for its production is, however, one of considerable difficulty.

The vapor of anhydrous sulphuric acid is passed over salicylic acid kept cool; gradually a sticky, gummy mass is produced, which contains the new acid and can be separated by appropriate means. Mr. Williams made several attempts to produce this conjugated acid by means of ordinary sulphuric acid, and after many failures found the following process to answer.

The salicylic acid must be very pure; the unpurified commercial acid, when treated with sulphuric acid, merely yields a black mass, giving off sulphurous acid, and yielding no sulpho-salt capable of giving definite crystals.

If pure salicylic acid is employed, then about twice its weight of sulphuric acid is sufficient. The mixture must be gently heated in a sand-bath up to about 100° C., when action will commence in the liquid, and considerable heat be developed. The beaker must be removed from the sand-bath and the contents stirred, so as to regulate and keep down the temperature; but the cooling must not be sufficient to altogether check the reaction. If the temperature exceeds the proper point, little or no sulphosalicylic acid is produced, but apparently bisulphocarbolic acid, which does not yield definite crystallizable salts.

When the reaction has been properly maintained, at the end of ten minutes or a quarter of an hour the temperature begins to fall and in a short time the whole becomes a solid mass, generally of a light brown color; this will speedily deliquesce, if left exposed to the air; but it can be dissolved in water at once, and treated with barium carbonate in the usual way. It should be mentioned that as the sulphosalicylate of barium is not a very soluble salt, it is necessary to employ a considerable quantity of water, and to filter the liquid while still hot. This solution of the barium salt, decomposed by an equivalent quantity of sodium sulphate, yields a solution of sodium sulphosalicylate, which crystallizes out on evaporation; these crystals must be pressed and purified by recrystallization two or three times from hot water.

When pure, sodium sulphosalicylate forms hard white prisms; it is not deliquescent, although very soluble in water. It is almost insoluble in alcohol, has no caustic, but a slightly bitter taste, and is altogether a salt well adapted for medicinal use, according to Mr. Williams's opinion.

Salicylic acid and its salts give, as is well known,

a striking reaction with ferric perchloride, producing a dark purple coloration. The sulphosalicylates produce exactly the same reaction, proving thereby that the salicylic acid radical is still intact in these compounds, and it is fair to infer that the medicinal properties of these sulpho-salts will be found in practice to be identical with, or perhaps superior to, the simple salicylates.—*Brit. Pharm. Conf. in Pharm. J. and Trans.*, Sept., 1876, 281.

The Clothes-wringing Machine in the Laboratory.

THIS profane apparatus is applicable to various uses which did not occur to the originator, among them to the separation of liquids from solid substances in the laboratory. Tinctures, elixirs, infusions and decoctions may be rapidly obtained by enclosing or heating the mixture in a bag of strong bolting cloth and passing it between the rollers, whereby the liquid portion is completely removed, and all handling of hot substances is avoided. By using cloth of variously sized meshes, the applicability of the apparatus may be readily multiplied. —*Apoth. Zeit.*

To Clarify Honey.

FOR the purification of natural honey various artificial means have been proposed, as tannin and albumen, charcoal, bole, shreds of filtering paper, and many others; but it may be accomplished readily, without any foreign agents, by the following method of K. Dannenberg.* Add to the honey *one-half its weight of water*, boil it for 15 to 30 minutes, according to the quantity of the honey, skim diligently, and add during the boiling as much *cold water as will interrupt the boiling for only* 15 *or* 30 *seconds;* repeat this 5 or 6 times. After the boiling has continued for about half an hour, the honey is strained while hot, and evaporated on a steam- or water-bath to the proper consistence.—*Arch. d. Pharm.*, Sept., 1876, 256.

Filtering Papers.†

BY THOMAS GREENISH, F.C.S.

WHILST engaged in examining some of those fungoid substances which every now and then make their appearance in solutions kept by pharmacists either for convenience in dispensing or other purposes, I have found on several occasions that the fungus had formed around a fibre, the presence of which in the filtrate was due to the paper through which the solution had passed.

The paper used was the circular gray foreign filter paper.

The white unsized filtering papers may be classed under Swedish, Rhenish, English, and Scotch. Sweden has obtained a reputation for filtering papers. Its manufacture has long been in the hands of one family. The supply, however, is not equal to the demand for it; consequently, there is an inquiry for other papers to supply its place. The Swedish filtering paper is composed of flax fibre, and the fibres are very much crushed and broken. The linen had evidently done duty elswhere in the rag before it found its way into the paper. The fibrillæ of the broken fibres serve to fill up the pores, and prevent solids passing through the paper.

The next paper is the Rhenish. This competes with the Swedish. It is a flax paper, but more fibrous in its structure, and consequently less dense than the Swedish; this is due to the fibres being less broken and crushed. The absence of so much fibrillæ would render such a paper quick in filtration, but not so satisfactory in results as the Swedish.

The English white filtering papers have a little cotton mixed with the flax, and the fibres are very much crushed and torn. These papers differ more in their physical character than in their composition.

The foreign gray filtering papers are of a more composite character, and have in their composition a considerable quantity of wool, said to be used to render the paper absorbent. Much of this wool is colored, and has evidently done previous duty in some textile fabric. I have also found in some samples, in addition to this dyed wool, fibres of jute and esparto, unbleached, and mixed with other fibres—in fact, to the microscopist interested in fibres, it is a kind of curiosity shop. It is evident that these papers must be very unsuited for alkaline solutions and others which will suggest themselves to the pharmacist, and it is not difficult to understand from the heterogeneous character of the material from which filtering paper of this kind is made, that it may be the source from which certain impurities find their way into delicate solutions.

It is extremely difficult to determine the fibres crushed and torn as they exist in these papers. A flax fibre where crushed resembles that of cotton, and it requires to be traced further to establish its identity. Again, the same fibre bruised only resembles the hemp fibre. The wool is not usually much injured, with this exception, that the characteristic imbrications are sometimes nearly all obliterated.

Mr. Greenish showed a specimen of Japanese filtering paper, more as a curiosity than with any practical object. It was a paper with very coarse meshes. He said he did not know what the Japanese used it for, as it seemed to be adapted only for filtering flies out of syrup. It is prepared from the liber tissue of the mulberry.

On Some Salts of Pilocarpine.

BY A. W. GERRARD.*

THE only described compounds of pilocarpine known at the present time are the nitrate, chlo-

* We are well aware that a process almost identical with the above has been in use in this country for many years, especially in some of the Western and Southern States; but in view of the fact that many still use all sorts of clarifying materials, some of which impart a foreign flavor to honey, we thought it of sufficient interest to insert it here.—ED. N. R.

† *Brit. Pharm. Conf.*, in *Chem. & Drug.*, Sept., 1870.

* *Brit. Pharm. Conf.* in *Chem. & Drugg.*, Sept., 1876, 355.

ride, and platino-chloride.* The two former I a year since prepared; the latter has since been made by Kingzett as a crystalline salt, and used by him in conducting an elementary analysis of the alkaloid, to which, after several experiments, he assigned the formula $C_{23}H_{34}N_4O_4$ (4 H_2O).

In the early part of this year I succeeded in obtaining some almost pure and colorless alkaloid (its purification having been hitherto a matter of difficulty) by means of the property I found the nitrate to possess of being soluble in boiling alcohol, from which it separates, on cooling, in tufts of white, shining tabular crystals. By these crystallizations it can be obtained in an almost perfect state of purity. The alcohol should be retained for future treatment, as it holds in solution a small portion of the salt. The crystals, thus obtained, dissolved in water and made alkaline with potassic hydrate, shaken with chloroform, the chloroform separated and removed by distillation, yield the purified alkaloid.

Portions of the alkaloid prepared by this method were dissolved in water, and neutralized respectively with nitric, hydrochloric, sulphuric, acetic, phosphoric, and hydrobromic acids; the quantities of each being small, they were allowed to evaporate spontaneously. In three days they had all become crystalline. The nitrate, phosphate and hydrobromate were best defined; the remainder were very deliquescent, especially the sulphate and acetate, the latter forming a block of pretty plumose-looking crystals, which readily deliquesced at low temperatures.

I made some experiments on the effect of various solvents on the above salts, excluding the sulphate, as the crystals were imbedded in a viscous mass and difficult to separate. The nitrate is soluble in water, sparingly in cold, but freely in boiling alcohol; it is insoluble in chloroform, benzole, carbon bisulphide, and ether. The phosphate is soluble in water, sparingly in cold, more freely in boiling alcohol, from which on cooling it crystallizes in lustrous tables; it is insoluble in ether, chloroform, benzole, and carbon bisulphide. The chloride is freely soluble in water, alcohol, and chloroform; insoluble in ether, benzole, and carbon bisulphide. The acetate is soluble in water, alcohol, chloroform, benzole, and ether; insoluble in carbon bisulphide. The hydrobromate is soluble in water, alcohol, and chloroform; insoluble in ether and carbon bisulphide. The form of the crystals of these salts of pilocarpine is somewhat difficult to determine. I have no doubt, however, they are tabular and of the oblique system. The nitrate and phosphate, on account of their stability and definite character, recommend themselves most for general purposes.

The Phosphorus Pill of the British Pharmacopœia.

Dr. G. Owen Rees writes to the *British Medical Journal* as follows, regarding the phosphorus pill of the Ph. B.:

"There has lately been much discussion on the best method of compounding pills with phosphorus, and, among other plans, there is one proposed from the laboratory of Messrs. Savory & Moore, in a communication made to the *Pharmaceutical Journal*. It is there stated that the phosphorus pills of the British Pharmacopœia are apt to become sufficiently hard to escape solution during the passage through the alimentary canal. The above fact was observed by me in the case of a gentleman who had my prescription dispensed by Messrs. Savory & Co., and who brought me pills retrieved from his stools, quite round, hard, and unaltered. I had previously used phosphorus pills made at Messrs. Savory's establishment, by a process which produced an easily soluble pill, and had done so with great advantage in cases of neuralgia and of diabetes mellitus, and I am sincerely glad that this imperfection of the British Pharmacopœia pill has been so early shown.

"Among the propositions made for modifying the present pill, I find the suggestion that soap should be added to the mass to render it more soluble. This I trust, will not be done, as the alkali of the soap will form a compound with part of the phosphorus, and, to say the least, render the preparation uncertain in strength."

The Properties of Gallium.

The recently discovered metal, gallium, melts at 81.1° Fahr., so that it liquefies when held in the hand. When solid, the metal is hard and resistant, even to a few degrees below the melting point. It can be cut, and possesses a slight malleability. When fused, it adheres easily to glass, on which it forms a beautiful mirror, whiter than that produced by mercury. It oxidizes but very superficially when heated to redness in the air, and does not become volatile. The density at 59° Fahr. is 4.7. Excepting mercury, which only becomes solid at −40° Fahr., there is no other element which liquefies at so low a temperature as gallium.

Possible Source of Error in the Nitric Acid Test for the Biliary Pigment.

Gmelin's test for the coloring matter of the bile in the urine consists in letting a few drops of nitric acid gently flow down the side of the test-tube which contains the urine. The acid falls to the bottom of the tube, and by diffusion reaches the biliary pigments, which undergo the usual coloration, producing yellow, green, blue, and red zones in the fluid. M. Cazeneuve warns us against a possible error in this experiment. It is well known that when alcohol and nitric acid are mixed, the former causes a transformation of the latter into nitrous acid, with the immediate production of the very volatile nitrous ether. This reaction takes place without any coloration. If, however, the acid be allowed to flow slowly down the side of a test-tube containing alcohol, it will fall to the bottom, and the two fluids will then react slowly on one another. At the end of a minute a magnificent greenish-blue zone appears, with a yellowish-green zone

* Or rather, according to Kingzett, the platinic chloride of dichloride of pilocarpine.

below it, and, a few moments later, a reddish zone above it in the superjacent alcohol. Here the nitrous acid formed from the nitric acid appeared at the same time—hence the blue, green, and yellow tints—and progressively etherized the alcohol; in the end all coloration disappeared. It is important, then, when using Gmelin's test for the biliary pigment, to be sure that the suspected fluid contains no alcohol.—*La Tribune Med.*

Bile as a Chemical Reagent.

At a recent sitting of the Medical Academy of Rome, Dr. Ratti, speaking of the fact that bile, slightly acidulated, has the property of precipitating the poisonous alkaloids and glucosides as well as albumen, attributes this to the taurocholic acid liberated by the acids and existing in the bile—not to all the constitutents of the bile taken collectively, as Prof. Morrigia seems to hold. Dr. Ratti's conclusions are these: 1. That the taurocholic acid may be used in aqueous or alcoholic solution in examining liquids containing alkaloids, glucosides, etc. 2. That this acid, which may be had extemporaneously, from taurocholate of sodium, is better as a reagent than acidulated bile, in which the glycocholic acid may conduce to error by its precipitation. 3. That the taurocholic acid may be enumerated among the general reagents of the alkaloids and glucosides, and is the best reagent for the detection of albumen. 4. That this latter property explains clearly why bile arrests stomachic digestion. 5. That the substances which form insoluble compounds with the albuminoids being regarded as antiseptics, the antiseptic action of the acidulated bile to which Professor Morrigia called attention may be readily understood.—*The Lancet.*

THERAPEUTICS.

Physiological Action of Vanadium and Chromium.

Vanadium was carefully examined as a metal, by Roscoe, but nothing was then ascertained of its physiological properties. It belongs to the group of metals which includes arsenic, antimony, and bismuth, and its atomic weight (51.3) resembles, nearly, that of chromium. It forms four series of compounds, and numerous experiments have been made as to the action of solutions of the metal on physical organisms, by Drs. Stirling and Priestly, and it has been found to be an intense irritant poison, rapidly causing death, which was accompanied or preceded by paralysis, convulsions, and supervening drowsiness. It appeared that all the solutions, except those which were extremly dilute, acted injuriously on such organisms as bacteria, germinating seeds, fungi, etc. It was applied to rabbits, pigs, cats, dogs, pigeons, and frogs, and the results are briefly stated to be as follows: The solutions were injected into the veins, under the skin, and into the alimentary canal, and the results in all cases were similar. The symptoms were first of all paralysis of motion, next convulsions, either local or general, and then rapidly supervening drowsiness, congestion of the alimentary mucous membrane, the presence of a fluid mucus in the intestine after death, and certain changes of respiration, and, coincidently, a falling temperature and feebleness of pulse.

Mr. Priestly has also reported some observations of the physiological action of chromium on rabbits, guinea-pigs, and frogs, and finds that it is two-fold; first, it induced irritation of the alimentary mucous membrane, which was evidently congestion and ecchymosis, and, secondly, it acted directly on the great nerve-centres, causing convulsions, paralysis, and vomiting, a fall of blood pressure, and a sudden and temporary stoppage of the heart in dilatation.—*Br. Med. Jour.*

Calabar Bean as a Galactagogue.

In the *British Medical Journal* of October 28th Dr. W. Munro remarks that he had already brought before the profession (*loc. cit.*, 1874, vol. ii., p. 549, and 875, vol. ii., p. 396) various uses to which Calabar bean might be put, from its power of dilating the peripheral blood-vessels. Wishing recently to restore the secretion of milk after it had disappeared from the breast for about three days, he had prepared an ointment of the strength of twenty grains of the bean to the ounce and ordered it to be applied, and washed off carefully before the baby was allowed to suck. After two applications, the baby not having been put to the breast in the meanwhile, the milk returned in full flow.

Vaginal Poultices.

At a late meeting of the Société de Thérapeutique, Paris, M. Bucquoy related that while an *interne* of Louis he had seen true cataplasms applied to the vagina. They were made thin and rolled around a small stick, which, having served as a means of introducing them, was withdrawn. This practice, which was an excellent one, seems to have entirely fallen into neglect, M. Fournier, of the Lourcine, being the only person who now employs vaginal cataplasms. M. Fournier makes use of voluminous cataplasms which quite distend the vagina; and he states that he was first induced to resort to this practice by having observed the effects which had several times resulted from his pupils having forgotten to remove large wadding plugs that had been introduced. In each instance these, far from having acted prejudicially, had proved of service in treating vaginitis.—*The Medical Press and Circular.*

Viburnum Prunifolium; its Uses in the Prevention of Abortions.

At the recent meeting in New York of the American Gynecological Society, Dr. E. W. Jenks, of Detroit, read a paper on the therapeutical value of Viburnum prunifolium, or black haw, as a preventive of abortion. For some time past it has been used for the above-mentioned purpose in the

South by Dr. Faris, of Mississippi, and in about a hundred cases of suspected abortion, Dr. Jenks had found reason to depend upon its favorable action, when given in doses of half a drachm to a drachm of a fluid extract of the bark for a few days before and a few days after the menstrual period. He employed it as well in menorrhagia coming on at the menopause, and in dysmenorrhœa, unattended by mechanical causes of obstruction. As he had used it empirically he was not prepared to give any theory of its mode of action, but it appeared to be quite the opposite of that of ergot. In prescribing it he had known the bark of other species of viburnum, and even wild-cherry bark, to be dispensed instead of it, either through ignorance or wilfully, which substitution had not been followed by the same therapeutic results as when the right one had been used. Dr. Bates of New York had become first acquainted with the remedy through reading an account of its properties in an eclectic periodical, and agreed with Dr. Jenks in his estimate of the value of the remedy, having for some time employed it in the form of a resinoid, prepared by Keith & Co., in doses of two to four grains in cases when abortion had become habitual.

Pain Produced by Chloral Hydrate.

HERBERT M. MORGAN writes to the *British Medical Journal:* "I have so frequently observed a peculiarity following the use of chloral which I have not yet seen recorded in any medical book or periodical, that I feel sure that it will be interesting for others, to describe it. In several cases where I had given chloral hydrate in ordinary doses (generally where it has been continued for several days at least), a feeling of pain is experienced all over the body, sharper than that of chronic rheumatism, and often so sharp as to make the patient beg for relief. In each case I have found no relief obtained until the chloral was discontinued. It seems to me to be a general hyperæsthesia of the cutaneous nerves, but sometimes localized in one particular spot. Tincture of gelsemium gives relief to the pain sooner than other remedies."

Injections of Bromine for the Relief of Cancer.

A CORRESPONDENT of the *British Medical Journal*, writing after a visit to the Samaritan Hospital, says: "We saw also, with Dr. W. Williams, a woman aged 50, whose cervix uteri had been amputated for epithelial cancer by Mr. Baker-Brown eight years before. The actual cautery had been applied later by Dr. Routh, and later still, Dr. W. Williams had injected bromine at three sittings, after which the whole of the affected part came away, and complete healing took place. The parts were now quite sound. There was apparently only an inch of uterus left. The solution used is one part of bromine to three of rectified spirits. This develops heat, and should be prepared some time before being used. From five to ten minims are injected into the tissues by means of a long syringe with a platinum nozzle and an India-rubber piston. It is desirable to remember that it may destroy the sense of smell in the operator, and that this may be prevented by placing alkalinized cotton-wool in the nostrils."

Poisoning from Lead in Vegetables.

DR. D. DE LOOS, of Leyden, writes in the *Nederlandsch Tijdschrift voor Geneeskunde* that he was consulted in October last regarding certain symptoms of paralysis and nervous disturbance, which suggested the idea of lead-poisoning. The symptoms occurred in a family residing in the neighborhood of a place where a manufactory of white lead had stood twelve years previously. They made use of vegetables grown on the spot. In order to make it certain that the poisoning was produced, as he believed it to be, by the vegetables, Dr. De Loos examined chemically some red beets, endive, and carrots, and ascertained the presence of lead in all. In a beet weighing 150 grammes he found the equivalent of a centigramme of metallic lead; in another, of about the same size, $1\frac{1}{8}$ centigrammes. In six carrots, weighing altogether 272 grammes, there were $1\frac{3}{4}$ centigrammes of metallic lead; and the metal was also found in the endive. The ashes of the plants also contained traces of copper, which had probably existed as an impurity in the lead.

Arsenic and its Antidotes.

M. ROUVER, assistant to Prof. Feltz, of the Faculty of Medicine of Nancy, has just published an excellent article, the aim of which is to discover what is the smallest dose of arsenic capable of destroying life, and what the effects of the antidotes recommended. This work is the result of many experiments, performed in the laboratory under the supervision of Prof. Feltz. These are the practical conclusions arrived at by M. Rouyer:

I. ARSENIOUS ACID.—A. *Introduced into the blood.*—1st. Very small doses suffice to cause symptoms of poisoning to appear: 0.0006 gramme to each kilogramme in the weight of the animal. 2d. Grave symptoms of poisoning, and sometimes death, take place when 0.0023 gramme per kilogramme is injected into the blood. 3d. Death is certain when the dose absorbed reaches 0.003 gm. per kilogramme. 4th. Death takes place in the space of from 24 to 35 hours when 0.0025 gm. are given, and in 8 hours when the dose is 0.003 gm.

B. *In the stomach.*—1st. 0.06 gramme of arsenious acid in solution to the kilogramme of the weight of dogs, injected into the stomach, is enough to cause death in nearly all cases. 2d. The dose of 0.07 gm. to the kilogramme is certain to cause death. 3d. If poisoning supervened only on administration of a stronger dose, it was much more rapid, and this being relative to a particular condition in dogs which throws off the poison too quickly. 4th. In poisoning by the

average dose of 0.06 gm., death ordinarily takes place at the end of 24 hours.

II. ARSENIATE OF SODA.—A. *In the blood.*—1st. The true poisonous dose is 0.005 gm. to the kilogramme. 2d. Below this dose, grave symptoms appear without causing death. 3d. The duration of these symptoms is from 12 to 20 hours.

B. *In the stomach.*—The dose of 0.015 gm. brings on symptoms of poisoning, but does not always cause death, which, when it does, takes place from 24 to 30 hours after.

III. ARSENIATE OF POTASH.—A. *In the blood.* 1st. The poisonous dose is 0.003 gm. per kilogramme. 2d. In this case death supervenes at the end of seven hours.

B. *In the stomach.* 1st. The poisonous dose is 0.03 gm. per kilogramme, and death takes place in from six to seven hours.

ANTIDOTES OF ARSENIC.—(*a.*) Hydrated sesquioxide of iron recently prepared (gelatinous and brown) is an antidote for arsenious acid, but not for the arseniate of potash, nor for the arseniate of soda.—(*b.*) At a longer interval than an hour it is useless to attempt recovery from poisoning by arsenic.—(*c.*) For arsenite of potash, and arsenite of soda the author proposes perchloride of iron in conjunction with magnesia.—(*d.*) The mode of administration is the officinal solution of perchloride of iron, and a half an hour after magnesia in the proportion of a drachm to 3¼ fl. ozs. of perchloride.—(*e.*) This perchloride of iron and magnesia are also an antidote for arsenious acid. Therefore, it is preferable to employ it always in cases of poisoning by arsenic or its compounds.—(*f.*) An hour after the administration of an antidote, it will always be well to employ a purgative, in order to expel the ferrated arsenite which is formed, and as this arsenite is soluble in acids, to avoid acid drinks and lemonades.—*Canadian Jour.*

Antidote to Strychnia.

THE East Indian physicians recommend nicotia as the surest antidote, which is given in exceedingly small quantities in sherry several times a day. In default of nicotia, decoction of tobacco leaves (half an ounce to a pint) is given.—*Amer. Jour. of Pharm.*

Bromide of Potassium in Hemorrhage.

IT has been asserted that this agent induces contraction of the blood-vessels, and Dr. Geneuil (*L'Union Médicale*) has used a local application in the treatment of epistaxis, uterine hemorrhage, and coryza. It should also be given internally. In coryza two injections of a saturated solution into the nose give relief in an hour, and a permanent cure is effected in about six hours.

External Uses of Bisulphide of Carbon.

IN the October number of the *Pacific Med. and Surg. Jour.*, E. J. Dorring, M.D., gives the following directions for the use of bisulphide of carbon in the treatment of atonic ulcers.

"As a general rule it is not until several applications have been made that a change in the character of the ulcer becomes visible. It is best applied by means of a camel's hair pencil, or a piece of charpie may be soaked in the liquid and squeezed upon the mouth of the bottle to expel any excess of the drug; then the charpie is lightly brushed over the surface of the ulcer, which is then covered with some mild, unirritating powder, as sub-nitrate of bismuth or starch. It generally produces severe pain, which, however, lasts only a few seconds."

The writer also gives the following summary of the results obtained by him after an extensive use of the drug:

1. Bisulphide of carbon is particularly useful in all ulcers showing a tendency to spread, especially if of a syphilitic nature. It ought to be applied freely twice a day.

2. If no beneficial effect is observed after a trial with this drug for a week, in any class of ulcer, it will be useless to continue its further application.

3. It is by far the best local application thus far presented to the profession in the treatment of that large class of ulcers termed indolent or chronic.

Poisoning by Bromide of Cadmium.

IN Castine, Me., two ladies were recently poisoned by taking from four to eight grains each of bromide of cadmium by mistake for bromide of ammonium, which latter one of the ladies had for some time used as a remedy for sick headache.

An ounce of the medicine was bought in a vial, which still retained the wrapper in which it had been placed by the manufacturer, and upon the vial was a label which read as follows:

Maison WM. CONRAD
ET. ROQUES et Co., Succrs.

1 *oz. Bromure d'Ammonium angl.*[1]

26, rue Vieille-du-Temple,
Paris.

Observing that the taste of the salt differed from that which she had formerly taken, the bottle was sent to the family physician—Dr. George A. Wheeler, to ask if it was all right, who, upon looking at the contents of the bottle and the label, found nothing amiss and supposed that it had been sent merely as a matter of precaution; but on tasting it he noticed at once an extremely pungent taste, and felt sure that it was a corrosive poison of some kind. In the midst of preparations to go to the patient's house to see what condition she was in, a messenger came whose message hastened his departure. He found both ladies vomiting severely and complaining of extreme pain, and a burning sensation in the stomach. One of them was also purging freely. The nature of the poison being unknown, white of egg, sweet oil, milk, etc.,

only were given as antidotes, and after a few hours, brandy and water, to relieve depression. The vomiting and purging lasted fully five hours, during a part of the time the pulses of both patients being imperceptible. After this period both women went to sleep and, for several days, were confined to their beds, and obliged to be extremely careful about what they took into their stomachs.

Mr. H. Carmichael, Professor of Chemistry in Bowdoin College, and Assayer for the State of Maine, made an analysis of a sample of the salt, and established its true nature.

The fault in this case appears to have rested neither with the druggist in Castine, nor with the one in the neighboring town of Orland, from whom he, in turn, obtained the bottle while awaiting a supply from Boston. An examination of the stock of the latter discovered a similar bottle having likewise a wrong label. Both sold the substance as they bought it, and nothing they could have done, besides an analysis, would have shown the poisonous nature of the drug.

This case will serve as an additional caution to druggists that they should know of their own knowledge what they are dispensing.—*Boston Med. and Surg. Jour.*, Oct. 12.

[We know of no use to which the salts of cadmium have been put as internal remedies. The sulphate has been employed in solution, to remove corneal opacities, and it, as well as the other soluble salts are corrosive poisons. Some of its salts are much used in photography, and as they are generally made in manufactories of chemicals not intended for medical use, the chances for poisoning through such mistakes are slight.]

The Antagonism between Monobromated Camphor and Strychnia.

Dr. Valentin y Vivo publishes in the *Siglio Medico* the conclusion of researches which he nas made on the antagonism of monobromated camphor and strychnia. Twelve dogs were poisoned with strychnia, and some of them were saved by means of the bromated camphor. The tetanic convulsions produced by the strychnia diminished in force and frequency under its use. The tonic convulsions became clonic, but a large dose of it was necessary to combat the effects of the strychnia.

With an excessive dose of the antidote, the united effects of the poison and the antidote produced death by syncope. The latter acts on the sympathetic system of nerves, causing dilatation of the pupil and paralyzing the heart. When death supervenes under the influence of the strychnia alone, the heart continues to beat after death; but when death is due to the bromated camphor, no post-mortem beating of the heart is observed.

It is preferable to administer the bromated camphor by the stomach in small and repeated doses; indeed, by hypodermic injection no result has been obtained.

Dr. Valenta has also made a series of experiments on dogs which led him to regard monobromated camphor as a certain antidote to strychnia. He recommends it to be used in cases of tetanus in daily doses of 4 to 6 grammes (1 ʒ to 1½ ʒ) dissolved in dilute alcohol.—*Journ. de Pharm. et de Chim.*

Therapeutical Value of Colchicia.

J. Rossbach has expressed an opinion, founded on numerous experiments, that colchicia is a therapeutic agent of but little value. It may be used as a local anæsthetic, and Gerhard used it as such, for application to the mucous membrane of the pharynx and larynx.

Carbola'e of Sodium in Nervous Affections of the Respiratory Passages.

Carbolate of sodium has been employed successfully by M. Pernot in the treatment of spasmodic affections of the respiratory passages, such as whooping cough and influenza.

Effects of Strychnia upon the Normal and Diseased Eye.

Hippel (*France Médicale*) undertook some experiments in order to determine whether strychnia increased the visual power, and whether it induced subjective symptoms of light and color. The strychnia was administered subcutaneously, six injections being made in the temples and one in the fore-arm. The following are his observations: 1. Increase of the peripheral sensibility for blue. 2. Temporary increase of visual power. 3. Distinct appreciation of peripheral points. 4. Long continued dilatation of the field of vision. The result of his observations upon diseased eyes was, in brief, that strychnia exerts the same effect upon the nerves of vision as does the continued current of electricity upon those of motion. It has, besides, a decided effect upon the atrophied optic nerve itself, even in cases in which all other means fail.

Action of Salicylic Acid upon the Fermentation of Wine.

Experiments made by Neubauer as to the effect of salicylic acid upon the fermentation of wine show that it can be depended upon for good results in the following cases:

1. New wine, in which the fermentation is not quite completed, may be brought to rest at once, and be so kept.

2. In old wine, which has become "sharp" from new fermentation, to again bring it to rest.

3. In small amounts sent to tropical climates, to prevent renewal of fermentation.

4. In mixtures of different ages and make, to prevent reactions upon each other, and consequent refermentation.

5. In small quantities that must stand open or on draught, to prevent mould or souring.

6. In casks that are to be kept in a certain condition, to prevent change and protect them from mould.

7. In old and moulded casks, to render them again fit for service.

In all the foregoing a strong alcoholic solution should be used, and as the acid is less soluble in wine it should be slowly added while the wine is being rapidly stirred.

Therapeutic Value of Helonias Dioica.

E. H. WOODBURY, M.D., of Washington, D.C., says that Helonias Dioica—False Unicorn Plant, or Star-wort—is a remedy too long neglected by the profession, it being, without doubt, the best of uterine tonics, being most valuable in those diseases originating in atony of the uterus. He says that in such cases he orders it with great confidence, and uses it in all cases of uterine "ulceration" where local applications are required. He advised its use in doses of half a drachm to two drachms of the fluid extract, and says he has thus employed it for many years in the treatment of amenorrhœa, dysmenorrhœa, leucorrhœa, etc. Its administration in proper doses is never attended with unpleasant results.

The United States Dispensatory has a brief notice of the drug, and this, with a few sentences in Tilden's supplement to the *Journal of Materia Medica*, appears to exhaust the literature of it.—*Southern Med. Record.*

Tolerance of Alcohol by a Patient suffering from a Spider-Bite.

IN the October number of the *Cincinnati Lancet and Observer*, Fordyce Grinnell, Physician to the Wichita Agency, Ind. Ter., relates the case of a woman who was bitten on the tongue by a spider of the specially poisonous variety known as *Saltacus Familiaris*. Some time before this the patient had been attended by Dr. Grinnell during an attack of cholera morbus, during the convalescence from which she had complained that as little as a teaspoonful of brandy affected her unpleasantly; but when suffering from the effects of the animal poison she took doses of from half an ounce to an ounce of brandy at frequent intervals, with the effect only of diminishing the pain; and when ten ounces in all had been taken, the pain entirely ceased and the patient was comparatively comfortable. This amount was taken within an hour and a quarter after she was bitten, but little more effect was produced than a temporary quickening of the mental faculties, as exhibited by unusual loquaciousness.

Simple Mode of Feeding by the Nose.

"I FIRST had to resort to some means for feeding a little child during the time I was resident medical officer at the Hospital for sick Children, Great Ormond Street, in a case of phagedenic ulceration of the soft palate after scarlatina, under the care of Dr. West, the pain being so acute when any nourishment or medicine was put in the mouth that the child would take nothing; but by the process I am about to describe I was enabled to feed this child regularly, without terrifying or hurting it. Also, for a case of collapse in pneumonia in a child, when the patient was past swallowing naturally, I was able to revive him again for a time, and cause hope that he might have rallied permanently. By its means we obviate the use of *instruments* for feeding by the nose; also the use of injections per rectum in many cases; and in cases of poisoning we can pass what fluids we wish into the stomach when the stomach-pump is not within reach, or is unsuitable, and the patient cannot or will not swallow naturally.

"The kind of cases where the process will prove of greatest service are mania, delirium tremens, diphtheria, croup, stomatitis, cancrum oris, etc., and for fasting girls and spoiled children, who, when ill, refuse food.

"The *advantages* are—(1) simplicity; (2) freedom from danger, or risk of accident; (3) imitation of the natural process of deglutition.

"The *apparatus* is—(1) a yard of india-rubber tubing of one-eighth of an inch bore; (2) a bottle of any kind (an ordinary soda-water bottle does well); (3) a piece of twine to tie the tube in the bottle, so that the end of the tube reaches almost to the bottom of the bottle.

"The *nutriment* (or *antidote*, if required) should be warmed as a rule, and put in the bottle, about half a pint in quantity, and may be composed of milk, beef-tea, stimulants, medicine, etc., as desired.

"Its *mode of action* is that of a siphon. 1. The bottle with the fluid in it is held or fastened above the head of the bed; the patient lying on his back without a pillow, 2. The tube is exhausted of air by laying hold of the tube close to the mouth of the bottle with the finger and thumb of the left hand, and running the finger and thumb of the right hand along it, closely compressing it while doing so; the fluid of course following the motion of the hand, when the pressure of the left hand is removed. 3. The free end of the tube is then passed *just within* the nostril and retained there with the left hand, while the right has the tube closed by the pressure of the finger and thumb. 4. By alternate compression and relaxation of the tube an ordinary mouthful of fluid can be allowed to escape at a time, permitting each quantity, if desired, to pass into the stomach before another gulp is liberated."—CLEMENT S. DUKES, M.B., in *The Lancet* (American edition).

Poisoning by Gelsemium Treated with Morphia Hypodermically.

IN the *Cincinnati Lancet and Observer*, of October, Dr. G. S. Courtright, of Lithopolis, Ohio, reports a case of poisoning by tincture of gelsemium in which hypodermic injections of morphia were successfully employed. A physician of middle age took between one and two drachms of tincture of gelsemium with some whiskey, mistaking it for tincture of cinchona. Disturbance of vision came on rapidly, and on the arrival of Dr. Courtright the symptoms had so far progressed that he was found sitting on the edge of a lounge, being held up by

two persons, with the head falling forward, the chin resting on the breast; respirations slow (not counted at the time); pulse 98 to 100, and very weak. The face was congested; lips of a livid color; the mouth was partly open, and the lower jaw was hanging quite lax. The tongue could be moved slightly, but was unable to articulate words. The interior of the mouth and fauces was moist; pupils largely dilated and insensible to light; the eyes had a staring look, with congested sclerotics and drooping lids, so that it was necessary to pull them apart to see the eyes.

The symptoms resembled those of belladonna or gelsemium—the latter seemed most probable, and an effort was made to produce vomiting, but it failed. On physiological principles the hypodermic use of morphia was resorted to at intervals of three to four minutes, from one-half to three-fourths of a grain being used each time, and a similar dose, given internally; five doses in all being given.

Improvement in all the symptoms followed the use of the morphia, and later, vomiting occurred, the ejected matter showing no traces of the poison. Two doses more of the morphia were subsequently used, and at the end of between three and a half and four hours from the commencement of the treatment, the patient was able to give an account of the mode of his poisoning. His intellect did not seem to be impaired at any time. He thought at the time Dr. Courtright entered that he was about to die of suffocation, and appreciated the immediate relief to his respiration which was given by throwing his head back. The stomach was empty when the poison was taken, and about two hours passed before the morphia was used.

The Treatment of Santonin-poisoning.

At the session of the *Niederrheinische Gesellschaft*, in Bonn, July 5, 1875, Professor Binz mentions a case of poisoning by santonin, in which a child of two years had taken one grain and a half of the drug. There were violent convulsions, beginning in the face and extending to the extremities, and great interference with the breathing. She recovered under the use of warm baths, vinegar enemata, plenty of fluids to drink, and artificial respiration. Prof. B. then instituted some experiments on animals to elucidate the treatment, and found that chloral, in doses sufficient to produce sleep, prevented the convulsions, and that ether-inhalations exercised a controlling influence over them. He thinks the same treatment may be employed in the human subject, coupled with artificial respiration, and, for purposes of elimination, laxatives and diluents in abundance.—*Rundschau.*

Plant-Anæsthesia.

The *Scientific American* states that the curious discovery has recently been made that anæsthesia may take place not only in animals, but in plants, and, in brief, in all forms of life. It has been demonstrated that etherization acts finally on all the tissues of animals, and on the central nervous system. Hence, if plants have tissues, the anæsthetic should equally act on them. This substantially appears to be the case; and every vital act, whether occurring in animal or vegetable, may be anæsthetized. In plants, M. Claude Bernard, to whom is due the credit of the discovery, has found that germination ceases under the influence of ether. He introduced water-cresses, which germinate from day to day, into two precisely similar tubes. In one tube he placed a little ether. The plant therein on the following day was found not to have germinated, as the other had; but after being removed from the anæsthetic, the first went on and germinated in a natural manner. The plant had literally been put to sleep.

Salicylic Acid.

Professor H. Köhler, of Halle, states that all the remote therapeutic effects of this remedy may be obtained by administering its salt, the salicylate of soda. The latter is not an antiseptic, and where such is desired, the acid itself must be used. To prevent zymotic action in the blood it is of little or no use, as the acid enters the circulation only in the form of salicylate of soda, which latter has no anti-zymotic virtues. The salt is a most powerful febrifuge, and is by him regarded as even better than quinia in this respect. It will reduce the temperature in fevers with remarkable uniformity, and is very much more convenient to administer than the acid. In rheumatic fever it acts admirably, but is not so good an antiperiodic as quinia in malarial diseases. [Recent conversation with one of our most reliable therapeutists leads us to doubt the value of the acid as an agent for reducing temperature in typhoid fever].

Strangury and Retention of Urine Following Small Doses of Cantharides.

At a recent meeting of the Cincinnati Academy of Medicine, Dr. Vogel reported the case of a man aged 23, who, supposing himself to be impotent, took ten-drop doses of tincture of cantharides, three times daily. On the third day he was compelled to solicit the aid of a physician, who was obliged to relieve the bladder by catheterization.

Ozone an Active Poison.

The *Scientific American* says that the eminent French chemist, P. Thénard, writes as follows in regard to the effect of ozone, or active oxygen, on the animal system: "I believe," says he, "that it is high time that the attention of the public, and even of the learned, was directed to the widely spread errors in regard to the action of ozone on the system: Far from being a remedy, it is rather one of the most energetic poisons that has been prepared in our laboratories, and the serious accidents which have occurred in my own leave no doubt of it. I will not enlarge on its physiological action, since A. Thénard will soon publish an article on that subject; but will only give prominence to the fact that, under the influence of ozone, even when greatly diluted, the blood cor-

puscles rapidly contract and change their form, the pulse becomes slower, so much so that a guinea-pig with a normal pulse of 148, after being kept fifteen minutes in a weak ozone atmosphere, had the pulse reduced to one-thirtieth. At the present time, when an accurate method of measuring temperature is of great assistance in medicine, ozone may possibly prove a means of preventing too great a rise of temperature; but inconsiderately to disseminate ozone in inhabited places, in the delusive hope of destroying a miasma, would be very dangerous. If our strongest poisons furnish in certain cases our best remedies, we must first learn how to use them, so as not to make a mistake in the time of giving or in the dose. Then, is it certain that ozone does exist in the atmosphere? Its presence there is proven by means of colored paper, the color of which changes more or less in contact with the air. But who knows that there is not some other substance present in atmospheric air, which can modify this paper in the same manner as ozone? Wittmann passed a stream of air through the flame of a glass-blower's lamp, and obtained a kind of air which acted upon the so-called ozonometric paper (starch and iodide of potassium) just as ozone does; but while this air disinfected badly smelling water without making it acid, ozone does not disinfect, and does make it acid. Moreover, it is well known that ozone cannot exist at a temperature of 392° F. (200 C.), while this modified air of Wittmann's was exposed to a temperature at which glass softens."

Sulphide of Calcium in Keratitis.

In the Birmingham Hospital, Mr. Solomon has found this remedy of considerable service in cases of chronic vascular keratitis (commonly known as strumous), especially where accompanied with evidences of impaired circulation, as cold extremities. He used the small doses recommended by Dr. Ringer, ordering one grain in half a pint of water; one to four drachms to be taken frequently; in larger doses it was apt to disorder the stomach; was injurious in acute cases, and in sanguine people acting as a stimulant.

The Ammonia Treatment of Snake-Bite.

The *British Medical Journal* says "that the report of a Special Committee of the Medical Society of Victoria is entirely adverse to the use of the intravenous injection of ammonia in the treatment of snake-poisoning. Their experiments entirely confirm the negative results of Indian experiments; and Dr. McCrea expressed the opinion to the Society, that to continue the intravenous injection of ammonia was to trifle with human life.

Enlarged Spleen successfully Treated with Ergot Hypodermically.

Dr. J. J. Jones, of Little Rock, Ark., reports, in the *Med. & Surg. Reporter*, the case of a man, aged 28, who suffered from malarial fever and an enlarged spleen—so large, indeed, that a physician who saw him in consultation advised Dr. Jones to "detach the man from the spleen, as the best mode of curing it." Fluid extract of ergot was injected under the skin to the extent of half a dozen doses of eight drops on successive days, with the effect of reducing the spleen to respectable size and curing the patient.

Quinia for the Relief of Pain.

The Paris correspondent of an English contemporary says:—

M. Verneuil, the well known surgeon of La Pitié Hospital lately delivered an interesting lecture on the utility of quinia in surgical affections. He referred to several cases in his wards in illustration of the efficacy of this most valuable remedy in all affections in which the element *pain* is one of the conspicuous symptoms. Thus, for instance, in two cases of cancer of the uterus, M. Verneuil succeeded in relieving the excruciating pain characteristic of the disease, by the administration of the sulphate of quinia, after having failed to afford the desired relief by the other means usually employed in such cases. M. Verneuil then summed up by announcing that the sulphate of quinia would be found particularly useful in all cases of an ataxic or adynamic nature, in neuropathic affections, and in septicæmia. In ataxic cases, the lecturer stated that it was not necessary that the symptoms should be of an intermittent character to justify the administration of the drug, and, as for neuropathic affections, no remedy can compare with it in these cases. He has found it particularly useful after operations on the eye, and in septicæmia its efficacy is undeniable. M. Verneuil explains its action thus in the latter affection: it diminishes the pus-forming process, and acts as a corrective of the septic elements generated at the seat of the lesion, whether caused by the surgeon's knife or by accident. Here the sulphate of quinia is doubly useful, not only on account of the above properties, but, even when employed locally, it acts as a powerful antiseptic. —*Med. and Surg. Reporter.*

Disagreeable Effects of Guarana.

According to a German authority quoted in the Boston *Medical Journal*, guarana is contra-indicated in that form of headache which is chronic, because it increases arterial tension by excitement of the heart, and elevates the temperature by exaggerated oxidation. Even after its use in neuralgic headache, phenomena of its poisonous action may be observed from the appearance of a *malaise* more distressing than the headache which has disappeared under its remedial agency. A certain patient, suffering from a facial paralysis due to a central lesion, took guarana, with the effect of producing redness of the face, staring eyes, slight irregularity of the pulse, moisture of the skin, delirium, dullness of hearing, and vesical and intestinal spasms. Dysuria is a frequent phenomenon.—*Med. and Surg. Reporter.*

RECENT PAPERS.

Liebig's Annalen der Chemie. No. 182, 3.

W. MARKOWNIKOFF: "Acetone in the Urine of Diabetic Patients." (See p. 329.)

F. LINDEROS: "On the Active Principle of *Adonis Vernalis*." [The leaves of this plant, which grows wild in Southern Europe, are used in medicine on account of their drastic properties. Ten pounds of the dried leaves were exhausted with water, the solution evaporated to an extract, the resulting semi-crystalline mass redissolved in boiling water, precipitated by lead acetate, the precipitate decomposed by H_2S, and the filtrate evaporated. In this manner faintly yellow crystals were obtained, which after further purification by solution in ether, and finally in acetic acid, were found to have the composition $C_6H_6O_6$, and were identified as aconitic acid. The dry leaves contain about 10 per cent. of this substance.]

U. HAUSMANN: "On Betuline." [Birch-bark, previously exhausted by boiling water, is boiled for several hours with 20 parts of 90 per cent. alcohol, the hot filtered liquid precipitated by alcoholic solution of lead acetate, the mixture again boiled, filtered, and the filtrate deprived of lead by ammonium carbonate. The resulting liquid, after filtration and cooling, became semi-solid. The impure crystals were purified by solution in ether and crystallization from boiling alcohol. Pure betuline crystallizes in colorless needles, is insoluble in water, soluble in ether, alcohol, benzol, and chloroform, and has the composition $C_{30}H_{50}O_2$. On dry distillation it yields an oily body, probably an anhydride of betuline (which appears to be a diatomic alcohol) of a penetrating and agreeable odor of Russia leather.]

Archiv der Pharmacie.

September. AD. KOPP: "On the so-called Resina Guaiaci Peruviana Aromatica vel Odorata." [Some 15 years ago, Gehe & Co. purchased a resin in Paris, which they have since been selling to perfumers, and the origin of which could not be ascertained. It is entirely different from true guaiac resin, yields on distillation with water about 4 per cent. of volatile oil, having an odor resembling a mixture of peppermint and citron, and yields on dry distillation various oils of different boiling points, which exhibit very peculiar colors. The portions distilling below 210° C. were brownish yellow to brown, strongly dichroic, and became green with ferric chloride. Addition of aqueous ammonia or soda turns them deep red; the ammonia-water itself becomes red, and on neutralization with an acid changes to blue. The portion boiling between 255° and 270° distils over of a pure and deep azure color, resembling ammonio-cupric solutions. This is probably identical with the blue oil of matricaria and galbanum.]

W. KIRCHMANN: "An Easy Method of Preparing Nicotina, Conia, and Sparteïna." (See p. 328.)

E. JOHANSEN: "The Chemistry of Oak, Willow, and Elm Bark." [In the course of this elaborate paper on the chemical properties of the various tannins existing in these barks, the author states that after treating querci-tannic acid with dilute sulphuric acid, and dialysing the resulting solution, he obtained a perfectly white crystalline body, which was found to agree in every respect with the peculiar variety of sugar termed quercite, obtained by Braconnot from the fruits of *Quercus racemosa* and *sessiliflora*. The author also obtained a white, odorless, bitter, crystalline body from willow bark, which was found to be identical with benzohelicin, obtained by Piria from populin by treatment with nitric acid.]

J. B. NAGELVOORT: "On the Sensibility of Ammonium Sulphomolybdate as Reagent for Morphia.] The author prepares his reagent by allowing acid ammonium molybdate to stand in contact with concentrated sulphuric acid for half an hour at common temperature. The changes of color on bringing the reagent in contact with morphia are, purple, violet, blue, muddy green, finally colorlessness. The reagent must be used fresh, and should not be exposed to sunlight. While the limit of sensibility of Husemann's reagent (addition of nitric acid to the sulphate solution) was found to be 0.00001 gm., or $\frac{1}{65000}$ grain, the above-mentioned reagent permitted the distinct and *instant* recognition of 0.000001 gm., or $\frac{1}{650000}$ grain of morphia. The former test is, besides, only applicable when working with colorless morphia, while the latter may be used with the impure alkaloid. But in presence of certain other organic bodies, or on exposing to light even in the absence of morphia, a blue color is developed *after a few minutes*. The reaction is therefore negative unless the color appears *at once*.]

M. STOELZL: "Herbaria: Preservation of the Natural Colors of Dried Plants." (See p. 327.)

E. DANNENBERG: "Mel Depuratum, Oil of Citron." (See p. 331.)

SAME: "Extractum Graminis." [Extract of Dog-grass, or Couch-grass, from Triticum repens L., or Agropyrum repens P. Beauv., is officinal in the German pharmacopœia, which directs 1 part of the cut rhizome to be digested for 6 hours in 6 parts of hot water, the resulting liquid to be strained and evaporated to the consistence of syrup. One part of this extract is then to be dissolved in 4 parts of cold distilled water, the *solution to be filtered*, and to be evaporated to a thick extract. The object of the first evaporation is the coagulation of certain gummy matters, which are to be removed by the subsequent filtration. The author points out that the great tediousness of this filtration may be avoided by boiling the first obtained solution until it amounts to about $1\frac{1}{2}$ times the original weight of the rhizome, and to watch for the moment when the suspended portions coalesce to flakes. If now the boiling be interrupted, the filtration may be proceeded with with ease, and the filtrate at once be evaporated.]

Zeitschrift für Analytische Chemie. XV., 3.

W. F. KOPPESCHAAR: "Volumetric Estimation of Carbolic Acid." (See above, p. 174.)

H. C. DIBBITS: "Decomposition of Ammonium Salts by Potassium or Sodium Salts." [The result of the author's investigations shows that ammonium salts not only lose some NH_3 by boiling the solution of a simple salt, but that in presence of certain other salts this decomposition is much increased. By adding equivalent quantities of chloride or nitrate of potassium or sodium to sulphate or oxalate or acetate of ammonium in boiling solution, some NH_3 is lost, and the solution contains 4 salts.]

C. STÖCKMANN: "On the Fusion of Silicates." [The author communicates an *infallible* process for completely and easily detaching the fused mass obtained in the decomposition of silicates, from the platinum crucible. After the fusion has been accomplished in the ordinary way, the crucible is allowed to get *entirely cold*. Then the flame is relighted and the *crucible reheated until the edge of the cake begins to melt*; the flame is now removed, and when the crucible is *entirely cold, enough water is added to cover the cake*, the flame is reapplied, and the cake becomes immediately detached. It is then transferred to a capsule and treated with water at a moderate heat, until it has become disintegrated. He also recommends to place a minute quantity of potassium nitrate upon the mixture before fusing. This keeps the interior of the crucible clean and bright.]

Répertoire de Pharmacie, Nos. 17–19.

GUICHART: "Preliminary Note on *Xanthium Spinosum*." [This is a composite plant, growing as a weed in waste places in Southern Europe. The author prepared from it an alcoholic extract, which was found to be very bitter, and in which he thought having discovered an alkaloid. The plant has been lately highly recommended as a remedy for hydrophobia, and is usually administered in substance, about 10 grains of the powdered plant being given several times a day.]

YVON: "Composition of the Root of Tayuya." [The author found in it: Water 11.57; mineral matters (silica, magnesia, lime, etc.) 11.47; starch 17.32; bitter resin and essential oil each 1.17; crystalline substance soluble in

alcohol 0.84; glucose, organic acids, woody fibre and loss, 57.39.—See above, p. 4.]

RENÉ ROUYER: "Arsenic and its Antidotes." (See p. 334.)

R. HUGUET: "Note on Extract of Hyoscyamus." [The author examined various samples for their saline constituents, and found No. 1 to leave 31.5 per cent. of ash, containing 5.8 per cent. potassium chloride. No. 2, 29.9 per cent. of ash containing 5.1 per cent. KCl. Nos. 3 and 4, 22.2, and 23.8 per cent of ash, with 8.4 and 7.4 per cent. KCl.]

YVON: "Composition of *Xanthium Spinosum*." [The author furnishes a complete analysis of this plant. (See Guichart's note above). He was unable to discover an alkaloid, and thinks that the indications leading to the supposition of its existence were owing to the presence of a resin, which may behave like sandarac or olibanum, when treated with acidulated water: such a liquid, namely, *gives precipitates with all alkaloidal reagents.*]

ED. PUCHOT: "On Iodine as a Reagent for Starch." [The author states that he has found certain nitrogenized organic bodies, chiefly albumen, to prevent the reaction of iodine on starch, or to destroy it. On adding albumen to blue iodide of starch suspended in water, the color disappears; and on adding albumen to a solution of starch, iodine solution fails to produce a color, except when added in great excess.]

Pharm. Zeit. f. Russland. Nos. 17–19.

NIC. KOPYLOW: "Analysis of Pumpkin Seeds." [The author obtained from 5 pounds of the seeds, by expression, 1 pound of a faintly yellow oil, mainly consisting of the glycerides of palmitic, myristic, and oleic acids. He also found starch and sodium chloride. The supposed glucoside *cucurbitin* does not exist, nor do the seeds contain an alkaloid.]

KARL WITTMANN: "Notice on *Euryangium Sumbul*." [This plant is found in great quantities in the neighborhood of Chabarowka on the Amur, in Eastern Siberia, distant 9,005 wersts from St. Petersburg. It is a perennial umbelliferous plant, growing to a height of about 1½ metres (nearly 5 feet). Its root is branched, fleshy, about 11 inches in circumference at the base, and about 4 inches in diameter, with numerous rootlets and a brown bark. It has a strong odor of musk, brought out more strongly by moistening it with water. The stem of the plant is likewise fleshy, tapering from the thick base upwards. The leaves are twice or more pinnatifid, the pinnæ lanceolate, sharply serrate; the umbels have 30 to 50 rays, and the flowers are small and white. Another umbelliferous plant closely allied to sumbul was met with, the root of which, however, did not possess the musk-like odor. The Eastern Russian inhabitants call the *Euryangium Sumbul* "Bärenklaue" (bear's claw), and use the root medicinally. The Chinese living in the district use it against various diseases, and call it *Zsuma-tschen-tuck;* the natives call it *Ofuokgi* and *Ouchi.*]

NIC. IWANOW: "On the Ethereal Oil of *Ledum Palustre*." [The oil is accompanied by a crystalline substance, which in an impure condition has an insufferably stupefying odor.]

Archiv der Pharmacie.

October. E. REICHARDT: "Is River Water to be considered a safe Drinking Water?" [This important paper, which does not permit much condensation, is particularly to be recommended to the attention of our sanitary authorities, as we have many cities laboring under similar disadvantages as those of Hamburg, Vienna, etc. The author's experiments on the "*filtration*" of river water entirely confirm those of previous investigators, namely, that only a mechanical purification is obtained. The purest drinking water, under all circumstances, is good spring water.]

E. MASING: "Quantitative Determination of Veratria and Physostigmia (or Eserina)." [Mayer's method of volumetric determination of alkaloids, by means of potassium iodohydrargyrate, may be employed not only in the case of pure alkaloids, but also for their estimation in various officinal preparations. Dragendorff having adduced satisfactory evidence of the reliability of the method,* E. Masing has extended it upon preparations containing veratria and physostigmia. If the proper corrections for solubility of the precipitate be made, and the absence of other alkaloids insured, the results were found to be very satisfactory. Contrary to the usual rule, the solubility of both of the double iodides of these alkaloids is greater in acidulated than in pure water; hence too great an excess of acid in the solution must be avoided. The end of the reaction may be determined with great precision, by transferring a clear drop into each of two test-tubes, adding a few drops of the test solution to one, and comparing with the clear drop in the other tube. The precipitate being soluble in 14,570 parts of slightly acidulated water, it is therefore necessary to add to the result obtained, for every c.c. of liquid manipulated, 0.000068 gm. of veratria. Each c.c of Mayer's solution precipitates 0.0296 of veratria. The author also finds that 1 c.c. of the same solution corresponds to 0.0374 grm. of sabadillia and 0.03327 grm. of sabatria. In the case of physostigmia the author finds that 0.01375 gm. are precipitated by 1 c.c. of Mayer's solution. He remarks that his method proved the existence in Calabar bean of a much greater quantity of alkaloid than could be extracted therefrom by the usually employed method, which should therefore be modified to give a better yield.]

E. FLEISCHER: "Constitution of Citric Acid." [Most modern text-books give as formula for citric acid, when crystallized from *cold* solutions: $C_6H_8O_7,H_2O = 210$, and from *hot* solutions $2\,C_6H_8O_7,H_2O = 201$.† Professor Costa-Saya, in Messina, who published lately a pamphlet with the title *L'equivalente dell' acido citrico del commercio*, remarks "that the difference of these two atomic weights amounts to 4⅓ per cent., which causes to the exporter of lemon-juice an actual loss of 4⅓ per cent., owing to the fact that the lower atomic weight, as ascertained by acidimetry, is adopted as standard. Reckoning the annual export of lemon-juice from Italy at 5 millions of lire, the loss amounts annually to 217,000 lire." The author of the present essay has made a series of careful experiments and analyses, and arrives at the following results: 1. Citric acid obtained from *hot* saturated solutions has the composition $C_6H_6O_6$, $2H_2O$. 2. The anhydrous acid must be considered as corresponding to the formula $C_6H_6O_6$ or $C_2H_2O_2$. 3. Citrates are converted, as Berzelius already has indicated, at more or less elevated temperatures, depending on the nature of the base, partly in aconitates, or at least are so changed that their behavior to mercurous nitrate becomes entirely different. A solution of this latter salt, containing as little free acid as possible, and rather dilute (1 : 100), if added to a solution of pure citric acid, or to that of a citrate *mixed* with nitric acid, produces no precipitate even after standing for twenty-four hours. In presence of aconitic acid, however, the liquid becomes more and more opalescent, until after twelve to fifteen hours a large bulk of crystalline precipitate is produced. 4. The neutral citrates of barium, calcium and lead become anhydrous at 100° C. The lead-salt undergoes change already at 120° C., and the silver-salt at 100° C., or even below.]

Journal of the Chem. Society.

September. W. N. HARTLEY: "On Variations in the Critical Point of Carbon Dioxide in Minerals." [The critical point of CO_2 is understood to be the point at which gaseous CO_2 becomes liquid, or vice versa. In the course of the paper the author gives a theory on the formation of diamonds in nature. It is generally acknowledged, from the character of the rocks in which diamonds are met with, that the latter cannot owe their origin to the agency of intense heat. It is much more likely that carbon dioxide (carbonic acid) in a liquid condition and under immense pressure has undergone reduction, perhaps by moist sulphides, and that the product was crystallized carbon. An-

* Chemische Werthbestimmung einiger starkwirkenden Droguen. 8vo. St. Petersburg. 1874.

† In reality 402; but, when referred to the single molecule $C_6H_8O_7$, only 201.

drews has prepared liquid CO_2 of a density greater than water, under a pressure of 223 atmospheres (3,345 pounds to the square inch), and perhaps it might be possible to succeed in accomplishing the reaction by employing apparatus of special construction.]

J. L. W. THUDICHUM AND C. T. KINGZETT: "On Hemine, Hematine and a Phosphorized Substance in Blood-Corpuscles." [The authors announce the discovery in blood-corpuscles of a phosphorized body closely related to myeline (see above, p. 297), and assign to it the formula $C_{76}H_{164}N_3P_2O_{14}$.]

The Analyst.

No. 7. R. R. TATLOCK: "On Enameled Cooking Vessels." [The nature of "enamel" used in iron cooking vessels varies greatly according to the mode of manufacture and the composition of the substance. But the presence of *lead* and *arsenic*, which the author of this paper has found in some varieties of the enamel, are too serious a danger to be passed over in silence. Three samples were removed from three different cast-iron pots, as sold in the market, and the following quantities of *lead oxide* and *arsenious acid* were found in them:—I. PbO, 0 per cent.; As_2O_3 0.02 per cent. II. PbO, 25.89 per cent.; As_2O_3, 0.42 per cent. III. PbO, 18.48 per cent.; As_2O_3, 1.02 per cent. The pot containing the last mentioned enamel was subjected to the following tests: 1. A 1 per cent. solution of citric acid was boiled in it for a few minutes. The liquid, after cooling, yielded with H_2S a dense black precipitate of lead sulphide. Another portion of the liquid gave distinct reactions of arsenic. 2. Some water containing about 3 per cent. of common salt was boiled in the pot, and the liquid, after cooling, was likewise found contaminated with lead; but arsenic could not be detected. 3. A quantity of gooseberry jam was boiled in it for a short time, and the same results arrived at. The author states that lead is added to the ingredients (sometimes in enormous quantities) to cause them to fuse at a lower temperature, and arsenic is probably added to give it a milk-white porcelainous appearance.]

Berichte der Deutschen Chem. Ges.

J. ANNAHEIM: "On the Absolute Weight of Atoms." (See p. 326.)

FERD. TIEMANN AND WILH. HAARMANN: "On the Constituents of Natural Vanilla." [About a year ago the authors published a method for determining the quantity of vanillin in natural vanilla, which consists in exhausting the comminuted pods with ether, evaporating the ether, shaking the residue with a watery solution of sodium hydrosulphite (bisulphite), decomposing the aqueous solution of the compound thus produced by dilute sulphuric acid, and finally shaking out the pure vanillin with ether. Since then they have analyzed a number of commercial vanillas and have found them to contain on an average 1.5 to 2.5 per cent. vanillin. Benzoic acid, which had been stated by previous investigators to form one of the constituents of vanilla, was not met with, but it was supposed that either vanillic acid, or its compound with vanillin, had been mistaken for it. However, it is well known that inferior or exhausted vanilla is frequently sprinkled over with benzoic acid, in order to give it the appearance of the unadulterated article. They also found in vanilla an odorous resin of mawkish taste. A peculiar variety of vanilla, known as *vanillon*, is derived from some of the West Indian islands. These capsules are generally surrounded by spiral twists of long and tough fibres, and have an odor more resembling heliotrope than vanilla. They are chiefly used by perfumers for preparing essence of heliotrope, and in order to more distinctly bring out the odor, essential oil of bitter almonds is generally added. It is also a remarkable fact that the odor of heliotrope flowers and of piperonal (prepared by acting with potassium permanganate upon potassium piperate) is exactly identical, and a chemical relationship or identity of these substances is suspected.]

W. MARKOWNIKOFF (*Russ. Chem. Ges.*): "On the Extraction of Thein from Tea." [15 gm. of powdered tea are boiled with 500 c.c. of water and 45 gm. of calcined magnesia. The liquid is filtered, the residue washed with boiling water, and the filtrate evaporated with addition of a little magnesia and sand. From the residue the thein is extracted by hot benzol, and from this solution the benzol eliminated, first by distillation and afterwards by a gentle current of air blown through the flask.]

LUNGE (*Schweiz. Chem. Ges.*): "On the Retardation of Chemical Reactions by Indifferent Substances." [A mixture of equal volumes of strong hydrochloric acid and glycerine (*a*), was compared with a mixture of equal volumes of the same acid and water (*b*). Colored paper was attacked by *a* after 45 seconds and bleached after 3 minutes; by *b* attacked after 10 seconds and bleached in 35 seconds. Iron and zinc require 8 times as long to develop hydrogen from *a* than from *b*. While 10 c.c. of *b* dissolved 0.5 gm. iron in 24 hours, the same bulk of *a* had not entirely dissolved them in 14 days. It is not likely that the cause must be looked for in a want of solvent power of the mixture, for ferrous chloride is perfectly soluble in glycerine. Besides, there are other substances producing the same effect, as mucilage or lampblack, especially the latter.] [Attention might also here be called to the fact that caustic agents, as carbolic acid, creosote, etc., are much diminished in energy or efficiency by glycerine; indeed, a mixture of equal parts of glycerine and carbolic acid may be brought into prolonged contact with the skin before the latter is attacked. The cause must be looked for probably in the diminished mobility of the mixed molecules.—ED. N. R.]

F. L. SONNENSCHEIN: "Some Constituents of *Gelsemium Sempervirens*." [The white crystalline body, which may be extracted from it by means of ether, and which had been considered as an acid by Wormley, was found by Ch. A. Robbins and the author to be devoid of true acid properties. From its external characters as well as its chemical behavior—especially in the blue fluorescence of its aqueous solution, the dichroism of an alkaline solution, and the yellow coloration produced by nitric acid converted into a deep blood-red by ammonia—it was suspected to be related to, or identical with, æsculin, also called polychrom, obtained from the bark of *Æsculus Hippocastanum*. On analysis it yielded figures which leave no doubt that the two substances are identical. The alkaloid existing in gelsemium, which had already been isolated by Wormley, who termed it gelsemia, was found to have the composition $C_{11}H_{19}NO_2$.]

Pharmac. Journ. and Trans. Nos. 326–330.

JOHN WILLIAMS: "On Sodium Salicylate and Sulphosalicylate." (See page 330.)

F. BADEN BENGER: "On the Condition in which Salicylic Acid is excreted by Patients." [The author's experiments were instituted with the view of ascertaining whether salicylic acid excreted by urine, or dissolved in urine, had still its power of retarding fermentation. He found that urine naturally impregnated with salicylic acid was altogether devoid of anti-ferment properties, while the presence of the acid was readily proven by its reaction with ferric salts. Urine purposely mixed with salicylic acid in small quantities ($\frac{1}{4}$ to 1 gr.) was found in most cases to be an anti-ferment. Sodium salicylate has no power of retarding fermentation.]

T. B. GROVES: "Note on Flower of Tea or Peckoe Flower." [A package of a novel substance, bearing the above appellation, and unknown to the British custom officials, was detained for examination. It turned out to be the hairs of the leaf-buds of the tea-plant, obtained by sweeping and screening the dust collected on floors where large quantities of tea are "bulked," in China.]

E. J. APPLEBY: "Notes on Phosphorus Pills." [The author gives three formulas: 1. *Phosphorus dissolved in melted cacao*, the cooled mass mixed with soap and tragacanth, and made into pills of $\frac{1}{50}$ to $\frac{1}{18}$ grain of phosphorus each; but these are apt to become rancid by keeping. See also p. 332. 2. *Balsam of Tolu* melted under water and thoroughly mixed with $\frac{1}{24}$ of its weight of phosphorus. This mass, however, does not readily mix with other ingredients, and the pills are apt to lose shape. 3. If *resin* be substituted for the balsam, a pill-mass is obtained, which is easily powdered and mixed with other ingredients.] [We have serious doubts as to the appropriateness of resin as a vehicle

for phosphorus. We prepared the mixture carefully several years ago, when it became fashionable, and although we can prove the presence of the proper quantity of phosphorus in the resin, it requires a very large dose thereof to produce the characteristic effects of the remedy. Our explanation is that probably the resin in some way alters the therapeutical, and perhaps also the chemical properties of phosphorus, analogous perhaps to the extinction of its luminousness by oil of turpentine vapor.—ED. N. R.]

W. DYMOCK: "Notes on Indian Drugs." [*Briedelia montana*, local name Asauna; the bark is a valuable astringent.—*Bergera* (*Murraya*) *Königii*, local name Kurwa Nimb or Karipak; the bark and leaves contain a volatile oil of a pungent taste and penetrating odor; leaves are used as condiment.—*Cissampelos Pareira*, local name Mibishee; is very common, but seldom used.—*Ailanthus excelsa*, local name Maharook; the odor and taste of the bark resemble that of cinnamon; it has been strongly recommended as a remedy in dyspepsia; the alcoholic tincture, when evaporated, yields a dark reddish-brown extract, which appears to consist of a wax and resin mixed, and has a strong cinnamon odor.—*Aristolochia Indica*, local name Sapsun; a bitter stimulant tonic of a camphorous taste.—*Aristolochia bracteata*, native name Keeramar, is nauseously bitter and used as an anthelmintic.—*Balsamodendron Roxburghii*; the gum resin of this tree is very probably that known in the shops as "Bysabol Googul" or "Indian Bdellium." (See above, page 105.)

W. GILMOUR: "Test for Sperm Oil." [By shaking 1 part of sperm oil with 4 parts of sulphuric acid of spec. gr. 1.84, and afterwards diluting the mixture with water and again shaking, a saponaceous liquid is obtained, which after some time separates into 2 layers, the upper one containing the flakes of the separated *cetin*; this is filtered out, washed, and dried. It is light, crystalline, pearl-white, odorless, and tasteless, and its quantity may be taken as a criterion of the purity of the oil. Ten samples were examined, which yielded to the author, from 1 oz. of each oil, the following quantities of cetin: 16.2; 15.5; 11.0; 7.1; 6.5; 6.0; 4.2; 3.0; 0.0 grains.]

Amer. Journ. of Pharm.

October. JOHN P. HEANEY: "Megarrhiza Californica." [This plant is known as "manroot" or "big or giant root;" the root itself is used as a laxative and cathartic. On drying, the latter was found to lose 70–75 per cent. of water, and on analysis it was found to contain a bitter principle (megarrhizin) soluble in water and alcohol, being a glucoside; besides a fatty resinous matter, an organic acid (probably fatty), gum and pectin (probably) and mineral constituents.]

J. DABNEY PALMER: "The Quinine Flower." [The author states that this is an annual plant, a native of Florida, and is a very popular domestic remedy for malarial fevers. The whole plant is used, in the form of decoction or extract, and given ad libitum, "until the patient begins to feel the effects of quinine in his head." It is intensely and permanently bitter, and yields its properties to water and alcohol. A saturated tincture in doses of one teaspoonful every 2 hours was found sufficient to break the paroxysms of intermittent fever.]

JOHN M. MAISCH: "Remarks on the Quinine Flower" (just mentioned). [At Prof. Maisch's request Dr. Palmer, of Monticello, Fla., sent him some specimens of the flowering plants described in the previous note, which were found by Prof. Maisch to correspond with a specimen of Sabbatia Elliottii Steud.]

Zeitsch. d. Œst. Apoth. Vereins. Nos. 25–29.

DR. RICHARD GODEFFROY: "Review of the most important modes of formation, methods of preparation, properties, and reactions of carbolic, benzoic, salicylic, oxybenzoic, and paraoxybenzoic acids." [From this excellent paper, which gives a concise but clear account of the chemistry of the above-named acids, we select the list of reactions, as being of most practical interest:

REACTIONS FOR CARBOLIC ACID.

1. Solutions of *caustic alkalies* dissolve phenol readily, with formation of *phenates* (carbolates) of alkali metals.

2. On treating phenol with an excess of fused *caustic potassa*, a copious disengagement of hydrogen gas occurs after a short time, while at the same time there are formed oxybenzoic and salicylic acids, and diphenol.

3. *Potassium* or *Sodium* dissolve in melted phenol, with disengagement of hydrogen and formation of *phenate* of the alkali metal.

4. On passing dry *carbonic acid* into phenol containing *sodium* in solution, sodium *salicylate* is formed, together with paraoxybenzoic acid.

5. Pieces of *caustic potassa* brought into a solution of phenol in *chloroform* become covered with a rose-red shell, but the mixture soon becomes very hot, dark-colored, and thick.

On adding to an aqueous solution of phenol a little *potassa*, evaporating to dryness, and, after the residue has become cold, pouring over it some *chloroform*, a magnificent purple color makes its appearance, which is ascribed to the formation of rosolic acid. (J. Guareschi.*)

6. A watery solution of phenol immediately discolors *potassium permanganate*. If the latter be added until the color ceases to disappear, the products of oxidation are only carbonic and oxalic acids; if, however, the oxidation remains incomplete, the products are a resin, closely allied in composition to phenol, a small quantity of oxalic acid, and a few other bodies.

7. Strong *hydrochloric acid* is poured upon *potassium chlorate* in a test-tube, so that the fluid stands a few centimetres over the salt; after the subsidence of the first reaction, and the removal of the chlorine vapors from the upper portion of the test-tube by blowing, the liquid is diluted with 1½ volumes of water; *water of ammonia* is now poured into the test-tube, so that the latter forms a separate layer over the other. On adding to this test-liquid a watery solution of phenol, the *ammoniacal layer assumes a tint*, varying with the quantity of phenol, from rose-red, through blood-red, reddish-, or dark-brown. One part of phenol may be easily recognized in 12,000 parts of liquid. (Ch. Rice.†)

8. On passing the vapor of phenol over *zinc* in powder, *benzole* and zinc oxide are formed: $2C_6H_5OH+Zn_2=2ZnO+2C_6H_6$.

9. On adding an excess of *bromine-water* to a dilute aqueous solution of phenol, there is immediately formed a yellowish-white flocculent precipitate of *tribromphenol*, $C_6H_2Br_3OH$. This reaction is said to be distinguishable in a dilution of 1 : 43,700, and by waiting for a few hours, even in one of 1 : 54,600 parts.

10. On shaking a watery solution of phenol with *aqueous ammonia*, and exposing the liquid to the vapor of bromine, the liquid assumes a distinct blue color, even in presence of only $\frac{1}{200000}$th part of phenol. (F. A. Flückiger.‡)

11. On mixing a solution of a *hypochlorite* with *ammonia* and a liquid containing phenol, an intense blue color is developed. Very small quantities of phenol may be detected by this reaction.

12. Dilute solutions of phenol are colored violet by *neutral aqueous ferric chloride* solution. *Alcoholic* ferric chloride solution produces a blue color with alcoholic phenol solution. Free acids prevent the reaction.

13. A watery solution of phenol reduces *metallic mercury* from a solution of *mercurous nitrate*, and the liquid assumes a red color, which is said to be visible still if only $\frac{1}{600000}$ phenol is present.

14. By united action of *iodine* and *mercuric oxide* upon phenol, substitution-products of the latter, containing iodine, are formed. (P. Weselsky.§)

15. *Albumen* is immediately coagulated by phenol.

16. Concentrated *sulphuric acid* dissolves phenol without color, and produces *phenol-sulphuric* (sulphocarbolic, sulphophenic) acids. Warmed with *fuming sulphuric acid*,

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* Gaz. chim. Ital. 3,402.
† Am. Journ. Pharm. 1873, 98.
‡ Arch. d. Pharm. [3] 3, 30.
§ Wien Ber., 69, II., 832.

phenol yields phenol-disulphuric acid, which latter imparts a *ruby* color to ferric chloride solution.

17. On heating phenol with *oxalic* and *sulphuric acids*, a beautifully red mass is obtained, which assumes a magnificent purple shade with *alkalies*. This is owing to the formation of *coralline*.

18. On heating phenol with sublimed (and, therefore, dehydrated) oxalic acid to 110–120° C., rosolic acid is formed. (Prud'homme.*)

19. Nitric acid acts upon phenol with more or less violence, depending upon its concentration, and produces either mononitrophenol $C_6H_4(NO_2)OH$, or dinitrophenol $C_6H_3(NO_2)_2OH$, or trinitrophenol, $C_6H_2(NO_2)_3OH$. This latter is commonly known as picric acid.

CORRESPONDENCE.

Rhus Poisoning.

TO THE EDITOR OF "NEW REMEDIES:"

SIR:—The experience of Dr. Lawrence Johnson with the fluid extract of *Gelsemium sempervirens* in rhus poisoning (detailed in your October number), is that of numbers who have tried the "specific" of the *Medical News*. I am one those unfortunates who cannot come in contact with the rhus vine without suffering, and as our woods are full of it, I am not infrequently poisoned. For years I tried first one remedy, and then another with more or less (generally the latter) success; but occasionally, when I would get a "good dose" of it, in the spring, nothing seemed to give me any relief. Finally, on applying some litmus paper to the pustules one day, I noticed that the serous fluid which escaped was intensely acid—instantaneously reddening the litmus wherever it came in contact with it. On this hint I acted. Having some bicarbonate of soda on my washstand, I rubbed a little of it on the pustules, and with almost immediate relief. A second application completed the cure. Since then, whenever I discover that I have come in contact with the poison, I simply rub the part well with dry bicarbonate of soda. The common cooking soda (subcarbonate) is quite as efficient, I find, as the *sodæ bicarb. exsic.* of the pharmacopœia. Since its success in my own case, I have frequently prescribed it to my patients similarly afflicted, and with almost unvarying success. I say *almost*, for I have met with one case—and one only, which did not yield to it immediately, and this one was benefited by it. It affords prompt relief to the burning and itching which are such prominent and distressing symptoms in this singular affection. Having also seen the fluid extract of gelseminum vaunted as a specific, I tried it thoroughly in three cases, without affording the slightest relief. Next to the *sodæ bicarb.* the following remedies have afforded the best results in my hands—in the order named:

Borax (dissolved in glycerine, *Boracis* ʒ j., *glycerinæ* ʒ j.).

Aqua ammonia—(ammon. aquæ f. ʒ ij., ol. oliv. f. ʒ j.).

Sugar of lead (a wash of the saturated solution or of the liquor plumb. diacet. diluted).

Quinine and iron, administered internally in those cases where a tonic was needed, hastened the cure.

Respectfully,

F. L. JAMES, M.D.

OSCEOLA, MISSISSIPPI CO., ARK., Nov. 4, 1876.

Powder for Producing Ozone.—In order to produce artifical ozone, M. Linder makes use of equal parts of peroxide of manganese, permanganate of potassium, and oxalic acid. When this mixture is placed in contact with water, ozone is quickly generated. For a room of medium size two spoonfuls of this powder placed on a dish and occasionally diluted with water would be sufficient.

* Monit. scient. [3], 3,890.

ORIGINAL COMMUNICATIONS.

PROTAGON.

BY CHARLES G. POLK, M.D.

THE substance now understood as protagon by histologists consists of albumen associated with a combination of glycerine, oleine, and hypophosphorous acid. One of the most striking features of this combination is the basic character of the hypophosphorous acid. Instead of corresponding with the acid which is developed when phosphorus is boiled with milk of lime, it unites with three instead of one atom of a base. But this, however, is only in accordance with the law which relates to the other hydrates of phosphorus. Phosphorus burned in dry oxygen furnishes the monobasic variety of phosphoric acid; but, if decomposed in the presence of a nitrogenous body, the orthophosphoric acid results. If phosphorus be subjected to the alembic of the system, in which nitrogenous elements abound, the result will be the tribasic variety of hypophosphorous acid—the formula found in the brain, blood, and nerve structure; and the same law is obeyed if hypophosphorous acid be developed in the laboratory of the chemist. If phosphorus be decomposed in the presence of a nitrogenous body by oxygen, or by the binoxide of nitrogen alone, a tribasic variety will be produced identical with that found in the human organism. Such being the chemistry of this compound, the logical inference is that it must sustain an important relation to life and play an important part in the drama of health and disease.

Protagon seems to be the especial medium by which the immaterial essence, mind, and the unanalyzed and mysterious principle, life, are connected with physical structures—the susceptible and impressible organism which is ever ready to obey the law of change, take a new form, and assume a new chemical character. Moreover, there are potent reasons for regarding brain and nerve power as immediately dependent upon the presence of protagon. In animals of great strength it is found in abundance in the blood, nerve structure, and cerebellum, and as we ascend in the scale of intelligence, does it relatively increase in the cerebrum, especially in the anterior lobes. The uniformity of this relation elevates it above the position of a coincidence, and associates very closely the cause and the consequence. If, then, the impressible character of the protagon adapts it especially to the high mission to which it is assigned in the various functions appertaining to animal and organic life, and both physical and mental conditions are dependent upon it for the display of the respective functions, the proposition is axiomatic that the normality or abnormality of both body and brain are in a great measure dependent upon the quantity and quality of this compound, and that any modification in these will be productive of obvious consequences in both the physical and mental states of the individual. This conclusion is in full accord with histological and pathological research.

In mental imbecility there is a comparatively small amount found in the cerebrum, especially in the gray matter of the brain; and similar results are also obtained in paresis cerebri and progressive locomotor ataxia, while in spinal paralysis the spinal cord alone evinces the deficiency. In tubercular phthisis, the brain, in the aggregate, contains very nearly the average quantity; but the base of the brain, cerebellum, organic nerves, and the blood are often bereft of fifty per cent. of the normal amount. But the blood is the most evident seat of the aberration, being quite deficient in the hypophosphite, while its place is supplied with an oleophosphate, although in a much smaller relative amount.

Right here may we not explain some of the mysteries which have heretofore enveloped the prime origin of tuberculosis? May it not be that inflammatory conditions of the blood decompose the normal hypophosphite into oleophosphate; and may it not also be that in this modification of the phosphorous oxide, that the blood becomes altered in its constitu-

ents, and the leucocytes become diseased, die, and constitute the body we term tubercle? There are potent reasons for believing this is so. Here I cannot discuss them, but I may remark that the pancreatic deficiency so strongly urged by Dobell, the acid condition of the small intestines cited by Bennett, the impaired organic nerve-power as claimed by Copland, are but manifestations of deranged life-force, and no doubt have their origin in a deficiency of hypophosphite of oleine in the blood, the medulla oblongata, the base of the brain, and in the nerve structures. This conclusion is not arrived at on mere theoretical grounds, neither are the clinical data so limited as to justify the sneer of being a mere coincidence. I have now used the hypophosphite of oleine obtained from the brain of the cow, as also that obtained by decomposing phosphorus, dissolved in oil and mixed with beef-juice, by dry oxygen under heavy pressure, over a period of eighteen years; and so uniformly successful have the results been that I have learned to regard it as an agent of especial efficacy in tubercular consumption and other chronic diseases attended with decided debility. But as it has generally been associated with cod-liver oil, iron, quinia, strychnia, and phosphoric acid, it has often been difficult to determine how much good accrued from each individual agent. I am sure, however, of one fact: cases generally did badly, in which neither the hypophosphite of oleine, nor the hypophosphite of iron, quinia, and strychnia were used; but those in which the hypophosphites were used, especially the hypophosphite of oleine, generally improved, and in nearly all cases which came in my hands before extensive lung disintegration had ensued, recovered. In the last four months I have witnessed three cases recover under very unfavorable circumstances, and these have confirmed in my opinion the efficacy of this agent beyond peradventure.

CASE I.—Miss A. M. P., of Delaware, has been a patient of mine for four years. This lady, forty-three years of age, had been in ill-health nearly twelve years; has had cough, diarrhœa, night-sweats, and four months ago was emaciated to a mere skeleton. Heretofore she refused to take the hypophosphite of oleine, on the plea that it sickened her stomach and increased the diarrhœa; but finding herself nearly approaching the grave, she agreed to try it once more. I prescribed the following:

Protagon (from the brain of the cow)	ʒ vj.
Alcohol	℥ j.
Oil of Eucalyptus	℥ ij.
Cod-liver Oil (Norwegian)	℥ iij.

M. Take a dessertpoonful twice daily.

The purpose of the oil of eucalyptus was to cover the taste of the cod-liver oil, which it does effectually, but the cost is a barrier to its general employment; otherwise cod-liver oil could be rendered a very agreeable medicine. Under the above treatment the diarrhœa and night-sweats disappeared, her appetite returned, digestion became excellent, and to-day she is visiting my house, declaring herself entirely well. She is fleshy and the very picture of health.

CASE II.—Albert M., aged twenty-four, bookkeeper in a wholesale drygoods house of this city. His family record is bad, several of his relatives having died of phthisis. Last May he contracted a cough from exposure to a severe rain-storm, and then sitting several hours at his desk. June 28, 1876, he placed himself under my care; he had considerable soreness over the apex of the right lung, dull sound on percussion and impaired vesicular murmur, free albuminous expectoration, night-sweats, total disgust for all fatty articles of food, and had had several slight hemorrhages. I ordered for him the prescription mentioned above, and sent him into the interior of this State. In six weeks he returned very much improved, apparently about well; but after resuming his avocation in the counting-house, he again grew worse, the expectoration becoming purulent and very abundant, and night-sweats returned. At present, November 1st, he is gaining flesh, seems to be growing corpulent, and has no indication of ill-health, except a trifling cough. During the treatment of the last case I was unable to obtain the hypophosphite of oleine for two weeks, and notwithstanding the weather was favorable for him, he began growing worse without it, but improved as soon as it was restored to the cod-liver oil, which he took from the beginning and will continue to take until the last vestige of pulmonary trouble shall have entirely disappeared.

Could the same results have been obtained by other well known agents? I doubt it. In the first case, a large amount of cod-liver oil had been taken without decisive benefit, and the second seemed to miss the hypophosphite of oleine as soon as it was withdrawn, although he continued taking cod-liver oil.

Professor Percy, of the New York Medical College, says he has observed great benefit in numerous cases of deteriorated health from the use of this compound.

We then have sufficient reason for regarding protagon as a very interesting and important compound—one sustaining an immediate relation to life, health, and disease. All recent investigations tend to confirm the claim that it is the food of the brain, and the medium by which life and the spirit animate the tenement of clay, that it is concerned in all the phenomena of vital functions, is the source of nerve-power, and the supervisor of organic life; that upon its adequate supply and proper formula is reposed the natural play of all animal organs, and if these be deranged, disease and death will follow. Moreover, we find, if it be furnished to the victim of its loss from the brain of animals, or manufactured artificially, we have an agent without a parallel in the realm of therapeutics in arresting those diseases dependent upon or growing out of its deficiency.

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BIBLIOGRAPHY.

UEBER DIE DER BEARBEITUNG EINER PHARMAKOPÖE ZU GRUNDE ZU LEGENDEN PRINCIPIEN, von DR. B. HIRSCH, Apotheker. Berlin, 1876, 4to, p. 19. ("On the Principles to be Observed in Composing a Pharmacopœia." By Dr. B. Hirsch, Apothecary).

WHILE some of the contents of this interesting pamphlet have an interest for European States only, where pharmaceutical codes are regulated by general laws, there are still a great number of valuable remarks scattered through it, which it is well for us to take into consideration, as we are so close to the period of a new revision of our own pharmacopœia. The author deplores the want of unity between the pharmacopœias of different countries, and insists on the necessity of trying to harmonize them as much as possible. He also advocates the appointment of permanent pharmacopœia councils, whose duty it should be to revise the work every 3 or 4 years, or whenever found necessary, and who should keep track, in the interval, of the progress of all branches of knowledge bearing on the subject.

The text of a pharmacopœia may be divided into: "*General Directions; Text Proper*, or *Materia Pharmaceutica; Reagents; Tables.*

As regards "*General Directions*," it is necessary to avoid all uncertain terms, such as "moderately," "a little," etc., but to replace them by definite expressions; it will not be difficult to establish some sort of a scale for transparency, bitterness, sweetness, consistence, and intensity of color. Should it be found necessary, in any new revision, to introduce an important qualitative or quantitative modification into a potent remedy, the widest official publicity should be given to it. Regarding the *nomenclature*, synonymes should be avoided as much as possible, and had better be placed into tables or the index. While scientific terms are preferable, it will still be found advisable to retain such names as alumen, ærugo, etc. In the case of *drugs*, it is proposed to place the term expressing the part to be used, in front, as "Radix Aconiti;" but, if the whole drug is officinal, a single name may suffice, as "Cantharis" or "Taraxacum." In the case of *chemicals*, polysyllabic or supratechnical titles are to be avoided; the salts should be grouped after bases. The *metric system* of weights aud measures, and the *centigrade*

thermometer alone should be used. Under the various headings, as "Oleæ ætherea," or "Radices" or "Herbæ," necessary directions for keeping them should be given. Especial attention should be given to the "*Maximum Doses*," particularly of those remedies which are usually administered to children. For the guidance of physicians, statements of the *solubilities* of soluble remedial agents at perhaps 10° C. (50° F.), should be appended. Measuring by drops should be abandoned, and small quantities should be measured out by means of graduated tubes or pipettes. Particular attention should be given to the phraseology and correctness of the text.

The "*Text Proper*" may be divided into pharmacognostical remedies, galenical preparations, and pharmaceutical chemicals.

Vegetable or animal drugs should be accompanied by the statement of the original source, but the habitat need only be added where it is of importance for the activity of the remedy. Well known indigenous drugs may need only a statement of the source, but all others should be sharply defined as to essential and constant characteristics, if need be, with addition of their appearance under the microscope. Drugs which vary greatly in external form or organization, should be characterized according to their physical or chemical properties, and statements as to color, odor, consistence, etc., should be confined within the sharpest possible limits. Drugs derived from the mineral kingdom should be described according to their physical properties as well as chemical behavior.

Galenical Preparations should be diminished in number as much as possible, and for the remaining ones the most simple methods of preparation, insuring the greatest possible uniformity of results, should be adopted. Wherever reliable methods of analysis for these preparations are known, they should be added.

In respect to "*Pharmaceutical Chemicals*," the author considers it advisable to give their formula according to old and modern views, the atomic weight of hydrogen being taken as 1; he also thinks it desirable to indicate the quantivalence of the elements in compounds. First should be mentioned the percentage strength, that is minimum or maximum contents of pure substance; then should follow directions for preparation, or, in the case of others, reactions for identity, methods for controlling purity and strength, and directions for preservation and dispensing. The author names various reasons why more processes of preparation than heretofore should be given; but none but the best and most commonly followed processes should be quoted.

Chemicals for which no process of preparation is given should be accompanied by short but sufficient tests for identity, avoiding, however, such as may be equally applied to others. Officinal solutions of acids and bases should be made of uniform equivalent strength, so that 100 gm. of an acid, for instance, would give a neutral solution with 100 gm. of water of ammonia, solution of soda or of potassa. In the case of chemicals, where absolute purity is not required, the maximum limit of allowable impurities should be stated. All methods of analysis or examination must, before being finally incorporated, be subjected to a careful practical control. Where latitude is to be given between an upper and lower limit of percentage strength, it should rather be expressed by the values for specific gravity, than those for percentage contents. Great attention should be given to the choice of correct hydrometric instruments, and directions should be appended as to their use. Less importance is attributed to the determination of the spec. grav. of solids or their melting and boiling points.

For *Reagents*, absolute chemical purity is demanded, and it is desirable to prescribe, for qualitative tests, solutions of moderate dilution, proportional to their equivalents. These should be followed by reagents for volumetric assay, and instructions for the proper keeping of the tests.

Among the "*Tables*" the author desires in the first place to have those at present in use in the German Pharmacopœia retained;* and in addition, to append tables of the changes made in the text since the last revision; a list of remedies always to be kept in stock; a list of those which must only be prepared when wanted; a table of solubilities of the principal remedies in water at the temperature of 10° C.;* a table of the number of drops equivalent to 1 gm. or 1 c.c. of such liquids as are usually prescribed by drops; and a list of the synonymes of the various remedies. It would be an improvement to extend the table of specific gravities of liquids by giving the values corresponding to each degree of temperature between 10° and 25° C.

The author's views deserve careful consideration, as from his intimate acquaintance with most existing pharmacopœias he is particularly in a position to point out their defects or to suggest improvements.

CHEMIA COARTATA; or, the Key to Modern Chemistry. By A. H. KOLLMYER, A.M., M.D. Oblong 8vo. Philadelphia, Lindsay & Blakiston.

THIS odd-sized little volume is intended to furnish a "key to modern chemistry," and is arranged in tabular form, giving the names of the elements, their synonymes, history, source, equations (of preparation), formulas of compounds, properties, and tests, arranged across two pages. We can, however, not entirely agree with the justness of its title, for in our opinion it is rather a compendium for repetition or for "quizzing." Regarded in this light, we acknowledge its usefulness, especially for students preparing for examination, although we occasionally find statements which are either ambiguous or not quite in accordance with modern science. [*Chemia Coartata* means "Chemistry Contracted."]

CHEMISTRY, GENERAL, MEDICAL, AND PHARMACEUTICAL, including the Chemistry of the U. S. Pharmacopœia. A Manual on the General Principles of the Science, and their Applications in Medicine and Pharmacy. By JOHN ATTFIELD, Ph.D., F.C.S. Seventh ed., revised from the sixth (English) ed., by the Author. 8vo. Philad. 1876. Henry C. Lea.

THIS admirable text-book of chemistry has so well established a reputation, both in Europe and in this country, that nothing we could say in its praise would add to it. The new edition contains some important alterations and additions, considered necessary for the demonstration of the latest developments of chemical principles, and the latest applications of chemistry to pharmacy. While the book has always included the chemistry of all articles officinal in the British Pharmacopœia, it necessarily included most of those contained in the Pharm. of India; but the present edition has been extended so as to include the latter entirely; so that it now covers the whole ground of the British, Indian, and U. S. Pharmacopœias. The engravings, which have already appeared in the sixth, are also incorporated into the new edition, and great praise is due to the publishers for the handsome style, clear type, good paper, and correctness of the text.

THEORY OF MEDICAL SCIENCE. The Doctrine of an Inherent Power in Medicine a Fallacy. By WILLIAM R. DUNHAM, M.D. Boston: James Campbell, 1876. 12mo, pp. 150.

IN this little work the author advocates the principle that "the ultimate special properties of vitality and the laws of vital force constitute the fundamental basis of medical philosophy and science." He claims to have endeavored to illustrate the principles in the most simple, brief, and effectual manner, and in such a way that the non-professional may know something from it of the general principles of our profession which will enable them to distinguish between quackery and regular practice. Part first is devoted to Science; Force and its Application; Theory of Vital Force, or Vitality; The Application of the Theory of Vital-

* *Table A:* Maximum Doses of Remedies for an Adult, which the physician must not exceed, without the addition of a caution-mark (!).

Table B: List of Poisonous Substances, which must be kept very carefully under lock and key.

Table C: List of Remedies, which must be kept carefully, and separated from the others.

Specific Gravities of liquids at 15° C.

Alcoholometrical Table.

* For practical purposes this is better than 15° C., as it is of greater applicability in winter.

ity; Disease; Materia Medica. Part second has chapters on Different Systems of Practice; The Present State of Medical Philosophy; The Drift of Medical Research and its Influence on the People; Conclusion—The Plan of Life.

The reader will not find this as easy reading as some other works of its day, nor, if he undertakes it, will he be likely to coincide with the author in all that he says, but we can assure him that there is a great deal of hard thinking put into small space, and that few who take an interest in the present rate of therapeutics can read it without great profit and considerable pleasure.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M.D., F.R.C.P., Professor of Obstetric Medicine in King's College, etc. Philadelphia: Henry C. Lea. 1876. 8vo, pp. 575.

Either the student or the practitioner has now less trouble in finding a good text-book or manual in midwifery practice than in choosing which one of several that are now offered him he shall adopt as his guide. After the appearance of the translation of Schroeder's treatise, and the work of Leishman of Edinburgh, it seemed that little was needed to meet the wants of either class. If either of these works were to be criticized, it would probably be on the score of the faulty and abridged translation of the former, and the too great conservatism of the latter. Comparing the work of Dr. Playfair with those that have preceded it and the present state of our obstetrical knowledge, it suits better what our idea of a treatise on this subject should be than any other work we have seen. It is clearly written, without being prolix. While the views of other authorities are duly respected, the author does not leave his reader in doubt as to what his own views are, and there is less tendency shown to mention theories or modes of procedure, because it has been customary to do so in obstetrical treatises, than is the case with most works of its class with which we are familiar. Indeed, the character of the matter is quite as well up to our present knowledge as could be expected.

The space devoted to anatomy is as brief as is consistent. The section devoted to the processes of a normal delivery and the mode of managing it, is admirably written. Deformities of the pelvis are clearly described. The use of the forceps in aiding delivery is advocated strongly, and, excepting a faulty illustration, is very well presented. The chapters on the puerperal state and its derangements is very full and includes the latest researches on the various conditions classed under the name of puerperal fever. Its size is for the student a matter of convenience, and the style of its publication equal to that of any other publication by this house.

A Practical Treatise on the Diseases of the Urinary Bladder, Prostate Gland, and the Urethra. By Samuel D. Gross, M.D., etc. Third Edition, Revised and edited by Samuel W. Gross, M.D., etc. Illustrated. Philadelphia: Henry C. Lea. 1876.

For several years the work of Professor Gross has been out of print, and the publication of the much more recent works of Sir Henry Thompson, Van Buren and Keyes, and others, rendered it no longer an authority on some subjects. The whole work has, therefore, been rewritten by Professor S. W. Gross, who has added entirely new chapters on Tumors of the Bladder and of the Prostate Gland. The chapter on the Anatomy of the Urinary Organs has been omitted, as well as other matters contained in the appendix of the former edition.

The section relating to urinary calculus is perhaps the most voluminous, next to which that devoted to stricture of the male urethra is most complete. Affections of the prostate and diseases and malformations of the bladder would follow next in order.

The affections of the ureters and kidneys are not mentioned, nor are any of the diseases or malformations of the generative apparatus alluded to. The female bladder and urethra receive due consideration, the chapter on vesical fistulæ being quite satisfactory.

In the diagnosis and treatment of strictures of the male urethra the recent literature on the subject is given quite fully, and the author declares, unhesitatingly, his preference for division rather than either slow or rapid dilatation.

None who have had the opportunity of knowing anything of the writings of Prof. Gross need be assured of the readableness as well as the clearness and practical applicability of his teachings.

Studies, chiefly Clinical, on the Non-Emetic Use of Ipecacuanha: with a Contribution to the Therapeusis of Cholera. By Alfred A. Woodhull, M.D., Assistant-Surgeon and Brevet Lieutenant-Colonel U. S. Army. Philadelphia: J. B. Lippincott & Co. 8vo. Pp. 155.

This is welcome as one of the few things which the members of the Army Medical Staff furnish us, and shows that there are some whose capacity for observation and love for their profession has not been repressed by the unfavorable surroundings of the public service. The writer undertakes to demonstrate that ipecacuanha possesses properties, as a direct stimulant of the sympathetic system of nerves, not recognized in the customary descriptions of it or in the uses to which it is put in practice. Part first is devoted to some seventy-five pages of clinical facts regarding the employment of the remedy both in large and small doses, in intestinal affections, hemorrhages, the vomiting of pregnancy, and in the puerperal state, as an antidote to poisons, in neuralgia, pneumonia, hepatitis, intermittent fever, etc., etc. In part second the author quotes the opinions of a great number of authorities concerning the therapeutical action of the remedy, and presents his own views with a comprehensive discussion of the questions raised. We need not say that the book is one of the most valuable that has lately been added to our works on therapeutics, the author having evidently taken every advantage his position afforded him to make his labors comprehensive and accurate.

A Treatise on the Theory and Practice of Medicine, by John Syer Bristowe, M.D., Lond., F.R.C.P., Physician to St. Thomas's Hospital, etc. Edited, with notes, by James H. Hutchinson, M.D., one of the Attending Physicians to the Pennsylvania Hospital, etc. Philadelphia, Henry C. Lea, 1876, 8vo, pp. 1089.

The little that we have been able to read of this book has hardly fitted us to notice it as its merits deserve. But it is impossible to look over its pages without being impressed with the amount of information which they have been made to contain, with no appearance of conciseness at the expense of completeness. A superficial survey even shows that, as a text-book, it is far in advance of those published only a few years ago; and a more careful examination of some of its sections—such, for example, as the one devoted to diseases of the nervous system, demonstrates that in provinces which have accomplished the greatest advances of late years, the author has kept his work quite abreast with the labors of the most reliable clinical observers.

Features quite unusual in a purely medical treatise are included in the shape of excellent chapters on diseases of the skin, and affections of the genito-urinary organs of females, which can but result in lessening the tendency on the part of the general practitioner to neglect these important classes of complaints with the feeling that, like derangements of the chief organs of the special senses, they can better be managed by specialists.

The first portion of the work, devoted to General Pathology, is admirable, the chapters on Tumors being especially noteworthy. The author has aimed rather to produce a systematic work than a clinical treatise, and has therefore omitted any details of cases, however interesting they may have been. And another feature is the omission of his own or any body's else private views regarding the special value of certain remedies. While the treatment of the affections mentioned is indicated with all the clearness desirable in a work on general medicine, the reader is allowed to depend for his knowledge of special therapeutics, such as the doses of medicine, the general rules for prescribing, the virtues which render certain remedies superior to others, etc., upon other sources of information.

BOOKS AND PAMPHLETS RECEIVED.

Proceedings of the American Chemical Society, Vol. I., No. 1. 8vo, N. Y., 1876.

Schlickum (O.). Pharmaceutischer Atlas. Bildliche Darstellung der pharm. wichtigen Gegenstände, in Holzschnitten. 8vo, Leipzig, 240 pp.

Winkler (Dr. Clemens). Anleitung zur chemischen Untersuchung der Industrie-Gase. Part I. Qual. Anal. 8vo, Freiberg, 1876, pp. 166.

Graf (B.). Repetitorium der Anorganischen Chemie. 8vo, Leipzig, 1876, pp. 92.

Höhnel (Franz v.). Morphologische Untersuchungen über die Samenschalen der Cucurbitaceen und einiger verwandter Familien. Mit 4 Tafeln. 8vo, Wien, pp. 41.

Circular No. 45. Philadelphia Drug Exchange. Oct. 17, 1875. With supplement.

Brohme & Co. Wasserglas und Wasserglaspräparate. 8vo.

Salicylsäure. Die wichtigsten Anwendungen der Salicylsäure in Medicin und Technik. Circular der Chem. Fabrik auf Aktien (vorm. E. Schering), Berlin, 8vo.

NEW BOOKS.

Wittelshöfer (P.). Beiträge zur Bestimmung des specifischen Gewichtes der Schwefelsäure bei verschiedenen Graden der Concentration. 8vo, Göttingen.

Askinson (G. W.) Die Fabrikation ätherischer Oele. 8vo, Wien.

Caldwell and **Breneman.** Manual of Introductory Chemical Practice. For use in colleges, etc. 8vo, New York.

Coquillon (J. J.). Méthode générale de synthèse organique. Action du platine sur les hydrocarbures de la série benzénique. 8vo, Rouen, 41 pp.

Körte (A.). Die Branntweinbrennerei nach praktischen Erfahrungen wissenschaftlich erläutert. 8vo, Breslau.

Rogers (W.). On some of the Derivatives of Salicylic Acid. 8vo, Dundee.

Selige (A.). Einige Versuche über Trimethylamin. 8vo, Göttingen.

Valverde (P. J.). Versuche über die Wirkung des Thymols. 8vo, Göttingen.

Wolfsohn (S.). Ueber die Wirkung der Salicylsäure und des salicylsauren Natrons auf den Stoffwechsel. 8vo, Königsberg.

Schmidt (Albert.). Ueber die Dissociation des Sauerstoffhämoglobins im lebenden Organismus. 8vo, Jena, 1876.

Besnier (J.). De l'emploi du vésicatoire dans la pleurésie aiguë. Paris.

Ferrand (A.). Traité thérapeutique médicale, ou guide pour l'application des principaux modes de médication à l'indication thérapeutique et au traitement des maladies. 1 vol., pp. 800.

Kollmeyer (A. H.). Chemia Coartata; or, the Key to Modern Chemistry. Oblong 4to. London.

Hamel (Félix John). The Laws of the Customs, consolidated by direction of the Lords Commissioners of Her Majesty's Treasury. London.

Jackson (Lewis D. A.). Simplified Weights and Measures. 8vo. London.

Oke's Magisterial Synopsis. 12th edit., by Thomas William Saunders. 2 vols. 8vo, pp. 1130. London.

Simmonds (P. L.). Waste Products and Undeveloped Substances. 3d edit. Post 8vo, pp. 490. London.

Sutton (Francis). A Systematic Hand-book for Volumetric Analysis. 3d edit. 8vo, pp. 440. London.

Tilden (W. A.). The Principles of Theoretic and Systematic Chemistry. 12mo. New York.

Madden (Thomas M.). The Principal Health Resorts of Europe and Africa for Treatment of Chronic Diseases. 8vo, pp. 276.

Faulkner (Frank). The Art of Brewing, Practical and Theoretical.

Attfield (John). Chemistry: General, Medical, and Pharmaceutical, including the Chemistry of the U. S. Pharmacopœia. 12mo. Philad.

Allen (Timothy F.). The Encyclopædia of Pure Materia Medica. A Record of the Positive Effects of Drugs upon the Healthy Human Organism. Vol. iv., roy. 8vo, pp. 628. New York.

Rosenberg (Emil). The Use of the Spectroscope in its Application to Scientific and Practical Medicine. Illustr. 8vo.

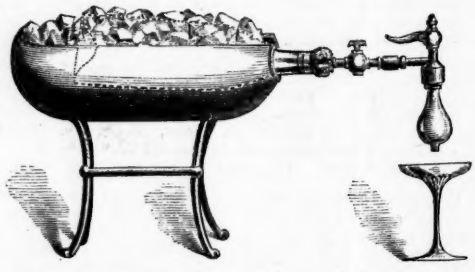
Announced.

Bernays (A. J.) Medical Chemistry for Students. With illustr. Philad.

PHARMACEUTICAL SUNDRIES AND NEW INSTRUMENTS.

An Improved Apparatus for Drawing Aërated Beverages.

A NEW apparatus, invented by Mr. Thomas Warker of this city, involves a novel principle in the methods of drawing aërated beverages, and is so simple and effective in its operation that we devote, with pleasure, some space to its illustration and description. It would commonly be presumed that a fluid charged under pressure with gas would, when drawn, contain the gas in quantity proportionate to the amount with which it was charged in the receiver; but experience is said to demonstrate that this is far from being the case. Using, for illustration, two siphons such as are ordinarily employed, charged with carbonic acid-water: one with a pressure, we will say, of five, and the other with a pressure of ten pounds to the square inch, it will be found that the water will escape from the latter with much greater force when the valve is opened, and the commotion in the vessel which receives it will be correspondingly greater than when water is similarly drawn from the first mentioned siphon. As a result of this mechanical commotion of the fluid, the separation of the gas is hastened, and it will be found that the effervescence soon ceases and that the gas which presently remains is only what the water would hold in solution at ordinary temperatures and atmospheric pressures. The water drawn at a pressure of five pounds, although containing relatively a smaller amount of gas at the outset, will sparkle and send up bubbles for a considerably longer period.



This may account for the complaints made by some persons who retail aërated waters, that the receivers are too lightly charged with gas. The probable reason in many such cases being that instead of drawing the water with the least amount of commotion, they hold the glass away from the tap and allow the stream to run in as lively a manner as possible. The more it foams the better it suits their ideas of how it *should* be, and when the customer hands back his partly-emptied glass to have another head put on it, or leaves it undrunk because it is already flat, the blame is awarded to the man who prepares the water, and not, as would be more just, to the one who draws it.

May not the desire to keep up with the demands of this class in the trade, have led manufacturers to overcharge their receivers to the extent of causing the explosions which have sometimes occurred?

Mr. Warker has adapted his apparatus not only to the siphon, as shown in the small cut, but also to the counter of the apothecary for dispensing mineral waters, and to the champagne-tap, as shown in the larger engraving. The working of the attachment is as follows: Pressure being made on the lever, as shown in the small cut, a charge of the contents of the bottle is allowed to pass over into the pear-shaped glass receiver. The valve is then allowed to close and the lever at the top of the pear-shaped receiver is pressed very lightly. This opens a valve at the top of the apparatus and allows the *excess* of gas to escape; which it generally does with a sharp hiss. The lever is then pressed down to the full limit, and by means of a rod passing through the centre of the glass bulb, but which is not shown in these pictures, a valve closing the opening in the bottom of the bulb is raised, and the contents flow quietly into the glass.

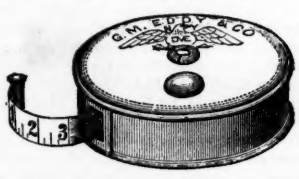
It is interesting to notice when aërated waters or sparkling wines are drawn by this method, how long the bubbles of gas will continue to rise to the surface; showing the extent to which the fluid has held it in solution and rendering the beverage palatable to the last mouthful.

Chromasote.

JERARD & JAQUITH are agents for the sale of a preparation called "Chromasote" for preserving autumn leaves. By this time the ladies will have thoroughly pressed and dried their handsome trophies of autumn rambles, and will be wanting something of the nature of a varnish, to heighten the tints and preserve the texture of their leaves and berries. This is what is intended to be accomplished by chromasote, and the dealer who has any desire to include such an article among his wares will do well to communicate with this firm, whose address, together with other matters of interest to the trade, is duly set forth in our advertising pages.

Steel Measuring-Tapes.

FOR some time we have been hunting for a pocket measure which should enable us to use either the metric or the English system, as we preferred; and one of the results of our visits to the Centennial Exhibition was to find a case full of goods manufactured by G. M. Eddy & Co., of Brooklyn, among which was just the article we were wishing for.



The adjoining illustration is of a pocket measure in which the case is of nickel-plated brass, and the measure, a steel ribbon ⅜ of an inch wide. On one side of the ribbon is a scale of inches, and on the other a scale of centimetres. For the use of the physician, who has occasion to measure chests and fractured limbs, nothing could be better, and we are surprised that an article of such common utility has not before now become a regular part of the stock of the instrument makers and retail apothecaries. This style of measure is made in lengths of 3, 5, 6, and 8 feet, which are sold by the dozen at $16, $20, $22, and $25 per dozen, respectively.

F. W. Devoe & Co.'s Brushes.—Such of our readers as would enjoy seeing a handsome display of brushes adapted to every use to which brushes can be put, should look at the window of F. W. Devoe & Co., cor. of Fulton and William Sts., and if there is anything practical in the way of brushes that they don't see there, Messrs. Devoe haven't heard of it yet, and will be pleased to have a call.

PRESCRIPTIONS AND FORMULÆ.

Isinglass Plaster.—Take of isinglass 10 parts; dissolve it in a sufficient quantity of hot water to make, after straining, 120 parts. Take 60 parts of this solution, and by means of a brush, spread a sufficient number of coatings on stretched silk (taffeta), which should measure, for every 30 grammes (about 1 ℥) of isinglass, 104 centimetres in length by 42 in width (about 40 inches by 16.) Each coating should be allowed to dry before applying the next. The remaining 60 parts of this isinglass solution are gradually mixed with

Alcohol	40 parts,
Glycerin	1 part,

and this mixture is brushed over the fabric in the same manner as the previous solution. Finally, the back of the fabric is coated with a sufficient quantity of tincture of benzoin, and the plaster is then well dried and preserved in a dry place. It is lustrous, and when moistened becomes very adhesive to the skin.

Fluid Extract of Hydrangea Arborescens.—This valuable remedy, first introduced by the late editor of the *Med. and Surg. Reporter*, may be prepared by the following formula, given by Dr. John King:

℞. Hydrangea root, powdered finely . . ℥ xvj.
Alcohol, }
Diluted alcohol, } . . . . . ää q. s.

Moisten the powder with alcohol; after twenty-four hours pack it into a percolator, and add enough alcohol to obtain twelve ounces of percolate, and set it aside. Then add diluted alcohol until the root is exhausted, evaporate this to four fluid ounces, and add it to the twelve fluid ounces first obtained, so as to make one pint of fluid extract.

In the absence of an authoritative formula, the syrup of hydrangea might be made by mixing two fluid ounces of the extract with fourteen fluid ounces of simple syrup.

Madame Hutin's Cologne.—This fragrant lotion is still popular in New York. It was first issued by Madame Hutin (afterwards Madame Labasse) about 1830. She was a celebrated French dancer on the stage in New York.

℞. Oil of lavender	℥ vj.
Oil of lemon	℥ vj.
Oil of rosemary	℥ ij.
Oil of cinnamon	gtt. xx.
Alcohol	Ovj.

This, although very weak, was doubtless refreshing when used, as it probably was, freely, to wash with after severe exertion.

A well-informed perfumer says that it would answer the original design of cologne water, viz., as an application for the relief of headache, or for the use of the sick room, where the ordinary sweet colognes are only deleterious. He says that oils of lavender and rosemary are always refreshing, while the sweet perfumes are often sickening to a weak person.—*Med. and Surg. Reporter.*

A Formula for Ergotin.—The following formula is offered by Mr. Charles L. Mitchell. He states that after numerous trials he can say that it yields a result in every way satisfactory:

℞. Ergot, in fine powder	℥ viij.
Acetic acid	f. ℥ ij.
Alcohol	f. ℥ iv.

Moisten the ergot with a mixture of the acid and eight fluid ounces of water; let it stand twenty-four hours; pack in percolator, and exhaust with water; evaporate to four fluid ounces, add the alcohol, let it stand several hours, filter and evaporate to an extract. Result, about 480 grains; one grain is equal to eight grains of ergot.

Unguentum Diachylon Hebræ.

This ointment is in considerable demand in the treatment of certain forms of skin-disease, and for other purposes; but, as obtained from various sources, it differs considerably in color, odor, consistence, and keeping qualities. It is usually prepared after the formula of the German pharmacopœia, which is as follows:

℞. Lead Plaster.....
Linseed Oil..... ℥ ãã equal parts.

Mix them properly at a moderate heat. It should only be prepared when wanted.

Other formulæ, which have been proposed or have been in use, require the extemporaneous preparation of the lead plaster, and the addition of some aromatic oil, to correct the flavor. Our attention has been drawn to the following formula, occurring in the writings of Rhazes,* being copied from the formula in Galen's treatise De Medic. sec. gen.: "Lythargiri triti ℥ i. sumatur, cui in patella locatæ olei veteris ℥ ij. et s. superadjiciatur, et agitentur, et lentus ignis sub eis fiat, et coquantur donec totum solvatur lythargirum; deinde mucillaginis fœnugræci, mucillaginis seminis lini ãã ℥ ij., mucillaginis malvavisci [*lege:* malvæ visci] ℥ i. sumantur et prædictis adjungantur; post hæc totum agitando, donec incrassetur, coquatur. Cum autem coctum fuerit, ab igne deponatur, agitatio tamen non intermittatur."

"Take ℥ i. of levigated litharge, place it into a capsule, add to it ℥ ijss. of old oil [water is also necessary], and incorporate them. Heat the mixture over a moderate fire, until all the litharge has been dissolved; then add of mucilage of fenugreek, and mucilage of linseed, of each ℥ ij., and ℥ i. of thick mucilage of marshmallow to the mixture, and heat the whole, under constant stirring, until it thickens. When done, remove it from the fire, but continue the stirring."

Dr. H. G. Piffard, of the University Medical College, N. Y., has for some time employed a diachylon ointment, prepared by melting together equal parts of emplastrum plumbi and vaseline, and working the mass in a hot mortar till cold. The preparation is quite soft, and apparently a perfect combination. The vaseline acts also as a protective against rancidity. Dr. Piffard states that he used it successively in eczema.

In the public hospitals of New York the following method of preparation has been in use for a number of years, and the ointment has a very good, homogeneous appearance, and keeps well:

℞. Lead Plaster..... ℥ v.
Olive Oil..... fl. ℥ iv.
Oil of Lavender..... fl. ℥ i.

Melt the lead plaster and olive oil together at a gentle heat; then stir until the mixture begins to stiffen, and incorporate with it the oil of lavender.

Soluble Blue.

Dissolve Prussian blue in an alkaline solution of ammonium tartrate, or boil 10 gm. of finely powdered Paris blue and 10 gm. of tartaric acid with 100 c.c. of water and 20 c.c. of ammonia, and add solution of soda, until the whole mixture has assumed a pure yellow color. On impregnating this liquid, slightly warmed, into cotton goods or other materials, allowing to dry, and then drawing them through very dilute sulphuric acid (1 : 50), a fine blue color makes its appearance.

Sedative Solution in Whooping-Cough.

℞. Musk.....gr. iij.
Potassic bromide..... ʒ ss. to ℈ ij.
Cherry laurel water..... ʒ iss.
Syrup of Ether..... ℥ ss.
Syrup of Belladonna,
Syrup of Codeine..... ãã. ℥ i.
Syrup of Orange flower..... ℥ iss. M.

To a child eight or ten years of age, give a teaspoonful between meals, morning, evening, and night. During the day it is not to be used, lest the narcotics recommended disturb digestion. The musk, if insupportable, may be omitted.—Guéneau de Mussey, in *Jour. de Méd. et de Chir. Pratiques.*

Lotion for Urticaria.

Hardy recommends the following lotion to relieve the irritation of urticaria: Chloroform, 10 parts; oil of sweet almonds, 30 parts; to be used several times daily.

Concentrated Solution of Salicylic Acid.

℞. Acid salicylic. pur..... ʒ ij.
Sodii biborat..... ʒ j.
Glycerinæ ..... q. s.

Mix the acid and borax with f ʒ iv. of glycerine, heat gently until dissolved, and then add enough glycerine to make the whole measure one fluid ounce. The solution contains 25 per cent. of salicylic acid, and can be diluted with either glycerine, alcohol, or water, to any degree required.

An Emmenagogue Pill, the formula for which is given in the *Union Médicale*, may be made as follows:

℞. Aloes.....qr. xv.
Rue,
Saffron,
Savin,.....ãã gr. vijss.

M. Divide into 10 pills, one of which is to be taken morning and evening, commencing two or three days before the supposed menstrual epoch. It is desirable to employ, in connection with the pills, warm hip-baths, dry cups to the lumbar regions, leeches to the upper and inner portion of the thighs, and walking exercise; also give in the menstrual intervals, iron and quinia.

* *Ed. Basil.*, 1544, p. 167. This edition contains a Latin version of a number of Rhazes' works. The author's full name is Abu Bekr Mohammed ben Zakarya er-Rasi; he died about 932, A.D.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

Bromide of Arsenic (H. A. C. and Wm. N.).—Bromide of arsenic, or arsenic (tri-)bromide, $AsBr_3$, is best prepared by adding to a mixture of 1 part of bromine and 2 parts of carbon disulphide, as much arsenic as is necessary to decolorize the liquid by shaking. More bromine and more arsenic are now added, until the liquid finally retains its color, while metallic arsenic is still present. The solution is now filtered and allowed spontaneously to evaporate. This yields crystals of $AsBr_3$, which are colorless prisms, very deliquescent, and of a strong arsenical odor. They melt at 20–25° C., and boil unaltered at 220° C. Their spec. grav. is 3.66. $AsBr_3$ is decomposed by water with formation of arsenious anhydride. With alkaline bromides it forms crystallizable but unstable compounds.

Melted bromide of arsenic dissolves metallic arsenic, in which case, according to Wallace, oxybromide of arsenic is formed.

Slag-wool. (G. W. B., Utica, N. Y.)—This is a product obtained by blowing steam through the melted slag of furnaces, which is thereby converted into a tissue of fine fibres, intermixed with the remaining metallic impurities. After the removal of the latter, and some further purification, it can be produced of a fine white color, and exactly resembling natural wool or cotton. It forms an excellent packing for steam and hot-water pipes, safe walls, etc., as well as for filtering. It being absolutely fire-proof, a very bad conductor of heat, not liable to get damp, very light, and exceedingly cheap, we can predict a most extensive use

of this substance in the future. It has been known for several years, but has not attracted as much attention as it deserves. It is manufactured in this country by R. D. A. Parrott, Greenwood, Orange Co., N. Y.

Monobromated and Dibromated Camphor (R. W.).—The reason why these compounds should not be termed mono- and dibromides is this, that the latter term, according to the usual phraseology, would indicate the *addition* of an atom or molecule of bromine to the *unchanged* formula of camphor, thus: $C_{10}H_{16}O+Br_2$ would form bibromide, $C_{10}H_{16}Br_2O$, which really exists. But the bi- or dibromated camphor is formed by the *removal* of two atoms of hydrogen from the camphor, which are *replaced* by bromine, thus: $C_{10}H_{16}O+Br_4=C_{10}H_{14}Br_2O+2HBr$. We find the statement that the action of this compound on the system is almost identical with that of the monobromated camphor, but we are not aware of any extended experiments having been published.

Quinia Salicylate and Carbolate.—Several inquiries having lately been directed to us regarding the preparations of these salts, we here insert the process of Julius Jobst. An aqueous solution of quinia hydrochlorate is mixed, in the cold, with a solution of ammonium salicylate, whereby a curdy precipitate of quinia salicylate is produced, which crystallizes from alcohol in beautiful prisms arranged in concentric groups. The same compound is produced by saturating an alcoholic solution of quinia with an alcoholic solution of salicylic acid, and slowly evaporating the alcohol. The salt is anhydrous, and has the composition $C_{20}H_{24}N_2O_2$, $C_7H_6O_3$, is soluble in 225 parts of water at 16° C., in 20 parts of 90 per cent. alcohol at 13° C., and in 120 parts of ether at 16° C., and contains 70.12 per cent. quinia.

The preparation of quinia carbolate is accomplished in precisely the same manner. It has the composition (when dried at 130° C.): $C_{20}H_{24}N_2O_2$, C_6H_6O, and contains 77.51 per cent. of quinia. It is soluble in 400 parts of water at 16° C., in 80 parts of 90 per cent. alcohol at 13° C., and is very soluble in ether.

Swedish Filtering Paper (J. E. E., New Haven).—The best "Swedish" filtering paper which we are aware of is made in *Germany*. It is manufactured by J. C. Grün, in Haiger, Prov. Nassau, and is said to be much superior to Munktell's. We have had a small lot, which was sent by a friend from abroad, but we are not aware whether it can be purchased here. We may be able to give more information shortly.

J. F. D. L. (Long Island).—To the best of our knowledge, the package you sent us contains a mixture of fennel seed with stramonium. The quantity was too small to examine what remained for belladonna. We found it to contain, besides, a small quantity of potassium nitrate.

Imitation Liquors (J. H. B.).—You will find all the desired information on this subject, more fully than our space would permit, in the work of the late Dr. Lewis Feuchtwanger, on "Fermented Liquors," etc.

Ancient Medical Works (A. W. S., M.D.).—You should commission some book-importing house to cause inquiries to be made in Europe. If you permit a reasonable latitude in price, it is quite possible that you may succeed in getting the books you desire. The correct titles of the editions you inquire about are:

Iatrosophistæ de Urinis Liber singularis. Graec. et Lat. Lut. (Paris) 1608. 8vo.

Nicolai *Myrepsi* Medicamentorum Opus in Sectiones quadraginta octo digestum. Ex interpr. L. Fuchsii, Basil. 1549, fol.

Oxalium (W. T. B.). — This is simply salt of sorrel, the acid oxalate of potassium, which exists naturally in wood-sorrel, rhubarb, some species of rumex and lichens, but is of course prepared, in our days, from oxalic acid artificially prepared.

Cardoleum (Same).—Is a brown, tarry mass, soluble in ether, alcohol, and fatty oils, obtained from *Anacardium occidentale* (Terebinthinaceæ), and recommended by Frerichs as a vesicant.

Dangers from the Use of Salicylic Acid (J. R. B., M.D.).—Your inquiry has received attention some time ago, but as we intended to consult some authorities not accessible at that time, we postponed our reply. No fatal effects from the use of the acid are as yet on record; but complaints are frequently met with of the acrid properties or harsh effects of some varieties in the market. But, even when pure, it may occasion dangerous symptoms. Richardson has observed a considerable prostration and lowering of temperature in a patient who had taken during three days 8.5 gm. (about 131 grains). The temperature fell from 39° C. to 35.6° C. (102.2° to 96° F.), and the pulse became intermittent. Several other similar cases were noticed. It is proper, therefore, to watch temperature and pulse, and to administer stimulants, if found necessary. Dr. C. A. Ewald, of the Charité at Berlin, asserts, that the minimum quantity to reduce the temperature, is on an average 5 grammes (77 grains), to be repeated, if necessary, after intervals of 4 or 5 hours. He reports having seen as much as 15 or 20 grammes (231 to 308 grs.) administered during 24 hours without ill effect.

ITEMS.

College of Pharmacy of the City of New York.—The regular quarterly meeting of the members of the College was held at their rooms in the University building, on Thursday evening, Oct. 19th. After the usual routine business had been transacted, the Delegates to the Conference of Teaching Colleges, which met in Philadelphia on Sept. 11, 12, and 15, made their report. Of the two propositions offered for consideration and discussion by the Philadelphia and Louisville Colleges of Pharmacy, the first presented a plan for a progressive or graded course of lectures, by dividing the students into junior and senior classes. But as most colleges are not yet in a position to carry out such a plan in full, it was decided to recommend to the colleges, as the most feasible substitute for the above, to hold examinations of the first course students, such examination to be optional with them, thereby stimulating them to further study and preparation for the second course. It was also suggested that public honorable mention might be made of those who particularly deserve it. The second proposition discussed was as follows: "Is it advisable to make one or more courses of practical instruction obligatory as part of the regular course of instruction in pharmacy, and if so, to what extent should such a course embrace analytical chemistry, preparation of chemicals, preparation of pharmaceuticals, and extemporaneous pharmacy?" After a full discussion of this subject the Conference passed a resolution recommending to the colleges the establishment of laboratories for the practical instruction in chemistry and pharmacy; but not deeming it for the present either practicable or advisable to make such a course obligatory, they concluded to further recommend, as the most practical plan to stimulate the acquisition of this kind of knowledge, that the students be required, as part of their examination, to personally prepare before the professors and examining committee, suitable evidences of their practical knowledge.

The report of the Delegates having been accepted, the recommendations of the Conference were referred to the Examination Committee, with power to make the necessary preparations to carry them into effect.

It was much to be regretted that the attendance of the members of the College at this meeting was barely over a quorum, and it is earnestly hoped that by more prompt and punctual attendance members will show the interest which we are sure they all feel in the welfare of the College.

The next conversational meeting will take place on Thursday evening, Nov. 23d, at 7.30 P.M., and the subject of discussion will be one of great importance to the whole profession, namely, "The next revision of the U. S. Pharmacopœia."

Dr. E. R. Squibb has signified his willingness to start the

discussion, and it is expected that by mutual exchange of our opinions our views may take such a shape as to enable us to more fully understand the questions involved, and to be prepared for intelligent and harmonious action.

Utilization of Natural Coal-Gas.—The Pennsylvania oil regions promise to furnish an additional valuable product, namely coal-gas, directly obtained from wells, for industrial purposes. A company has already laid 18 miles of 5¾ inch pipes, which deliver a tremendous volume of gas to several manufactories near Pittsburg. The gas comes from the pipe with a pressure of 100 pounds to the square inch, and yields a flame of 25 to 30 feet in length by 6 to 8 feet in diameter. Other wells and conduits are in course of construction, and it is proposed to utilize the gas in smelting furnaces.

Carbonado.—For some time a black, shining mineral has been found in Brazil, which has been found to consist of pure carbon. It is as hard as the diamond, and being much cheaper than even the smallest diamonds, it finds useful application for cutting diamonds. It enters into commerce under the name of carbonado, and is frequently found in the districts of Bahia, in pieces weighing over 1,000 carats.

Cathartic Acid, prepared from senna, or frangula bark, or rhubarb, in a nearly pure form, soluble in water and tasteless, is to be had in the German market. Dose for adults: 0.25 to 0.4 grammes; for children, 0.12 to 0.2 gm.

Ink-stains may be removed from colored fabrics which would not bear the application of acids, chloride of lime, or other strong agents, by a concentrated solution of sodium pyrophosphate (*R. Böttger*); old stains do not yield at once, but require a prolonged application.

The Metric System.—The Hon. James Yates (an Englishman), after protracted inquiry and investigations in the schools and among those best able to judge of the matter, reported that the complete adoption of the decimal, in place of the present English weights and measures, would save full two years in the school-life of every child educated. In our country the saving would be something less, because of our adoption of the decimal currency; but the most conservative teachers acknowledge that something like this amount of time would be saved each child if our present confusion of measures were entirely replaced by the International or Metric System. Regardless of the much greater commercial and international claims of the new system, it is certainly one of the most prominent educational questions now before the people, and there was ample room for the association recently incorporated in Boston as the American Metric Bureau.

The Nature of Ergotin.—According to the German chemist, R. Buchheim, ergotin belongs to the class of putrid products, and it is possible that we shall be able to obtain it from other sources than the rye fungus—for instance, from putrid blood, etc.

Chewing-Gum.—Many thousands of pounds of chewing gum are consumed annually in the United States, where this peculiarly American habit appears to be on the increase. The tree from which it is obtained is found in many parts of the southwest. The gum exudes through cracks in the bark at all seasons of the year, and hardens on exposure. It is soluble in alcohol, and makes a smooth, pleasant syrup. The gum is collected and sent to the "chewing-gum manufacturers," when it is made into convenient packages and sent to the retailers.

Anæsthetics—Questions by the Surgeon-General.—With a view of collecting precise data relative to the effects of chloroform and ether, the Surgeon-General of the Army has issued a circular directing medical officers to record, during the year 1877, the cases in which recourse is had to anæsthetics, noting the following particulars:—Name and age of subject, nature of the anæsthetic, the quantity used in maintaining anæsthesia, the time required to induce complete insensibility, the time the anæsthetic influence was maintained, the mode of administration, and whether vomiting, excitement, or great prostration was observed during or after the administration.

Mucilage for Labels.—Those who are engaged in gumming labels are often annoyed by the curling up of the edges of corners. A remedy for this is to add to the mucilage a little salt, sugar, and glycerine, and the paper, if not exposed to too strong a warmth, will not curl. A very small quantity of glycerine must be used, as a large proportion will prolong the process of drying.

Abortive Treatment of Whooping-Cough.—Dr. Sawarowsky writes to the *St. Petersburger Med. Wochenschrift*, Sept. 30th, recommending the inhalation of a mixture containing f 3 j. of chloroform and three drops of nitrite of amyl. Besides this he administers for three days, at intervals of two hours, the following powder: Argent. cyanidi, gr. 1-12; Argillæ puræ, gr. iij. Hot articles of food and drink are to be prohibited. Under this plan of treatment the most obstinate cases have yielded within a very few days.—*The Clinic.*

Narceine in Whooping-Cough.—According to the *Cincinnati Lancet*, the following formula will relieve whooping-cough: "Narceine, 25 centigrammes; simple syrup, 500 grammes, and a few drops of acetic acid. Each tablespoonful will contain 1 centigramme, and half a tablespoonful can be given for a dose. In the course of twenty-four hours two or even three centigrammes can be given.

A Panic among the Sponge-Divers.—It is reported from Beyrout that the last crop of Turkey sponge was very deficient, and prices of ordinary and common sponges have greatly risen in consequence. The deficiency is attributed to a panic among the divers, caused by the appearance in the neighborhood of Batroon, the chief sponge-fishing locality, of a sea-monster, alleged to have been equal in size to a "small boat." Its actual depredations among the divers appear to have been limited to one man, who it is said was swallowed whole!

The Medical Register and Directory of the United States.—A new edition of this useful work is announced by its editor to appear in December.

Obituary.—We regret to announce the death, on Oct. 21st, of Mr. Bernhard H. Reinold, a well known and highly respected apothecary of New York. He was a native of Hesse-Cassel, Germany, and had been engaged in business in this city for about twenty-four years. At the time of his death he was president of the German Apothecaries' Society, and one of the vice-presidents of the College of Pharmacy, of the city of New York.

The Eucalyptus Globulus in Italy.—The Italian Government, persuaded by the success of the Trappist brotherhood of San Paolo fuori le mure di Roma, that the Eucalyptus globulus has a beneficial influence in malarious districts, has presented to the landholders of Italy large supplies of slips of the tree for the purpose of forming plantations where its virtues seem required. The government also intends to grow eucalyptus along the boulevards of the large cities, and even along the various lines of railway throughout the kingdom. Landholders themselves are following the initiative of the government, and in a few years Italy expects to drive malaria effectually from her borders.

Ammonia and Nitric Acid contained in the water of the Seine, at Paris, have been estimated by Boussingault and Belgrand. They found that every second 1,661 cubic met., and during one day 143,510,400 cub. met. of water passed through the Pont de la Tournelle. Each cub. met. contained 0.33 gm. ammonia and 1.20 gm. of nitric acid; the whole day's flow therefore contained 47,358 kilos ammonia and 182,212 kilos nitric acid.

Adulteration of Oil of Cloves.—This oil has for several years, especially in Germany, been found adulterated with carbolic acid. This may be recognized by shaking the suspected oil with 50 parts of hot water, slowly evaporating the aqueous portion to a small bulk and testing with a drop of ammonia and a pinch of chloride of lime. In presence of phenol a green color, changing to a permanent blue, is developed (*Flückiger's test*).

The Vintage in France is reported by the French correspondent of the *Pall Mall Gazette* to be very promising.